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TO IMPROVE THE SOIL AND THE MIND.

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Editorial Correspondence.

The Agriculture of Chester County, Pennsylvania—Conclusion.

Our first call, June 15th, was upon Mr. CHARLES E. HIESTER, at "Edgewood," a farm he has now occupied for eight years—purchased in rather a rough condition, but already showing the marks of very great improvement. It embraces a hundred and fifty acres, thirty of which are in wood. During our stroll about the fields, we came upon one of wheat—a part sown in accordance with the customary rotation, after oats, and a part following a crop of potatoes—the soil and treatment of the two otherwise quite similar—and the difference in favor of the portion preceded by the potatoes was very distinctly marked by taller straw and thicker heads. Mr. H. has a flock of Cotswolds principally from the Ware and Reybold stock, including about 25 breeding ewes; these sheep average with him, for yearlings, ewes and all, a fleece of about 9 lbs. per head. The common ewes, bought for winter feeding, give lambs in spring of one-half Cotswold blood, and these fat early and reach a good size for the butcher about harvest time. Besides a total flock of about 60 young and old, Mr. H. has 20 to 25 cattle, some of these very good—also Chester County pigs; his plowed land was 15 acres in wheat, 13 in corn and 12 in oats. Here I should not omit to mention the garden and strawberries—the latter of which were as handsome specimens in size and quality as any that we had elsewhere seen, and the cream accompanying them certainly spoke well in richness for the dairying merits of Chester County Short-horns.

We next proceeded to Mr. FRANCIS STRODE's, and here I had thought it an appropriate place to speak at some length, over the living examples, of the origin, breeding and points of the Chester County pigs—in all of which, however, I have been anticipated in the kind letter already published (see Co. GENT. July 18, p. 44) from one who was better qualified to undertake the subject. At Mr. Strode's we had a good illustration of what he there has written, and a peep likewise into his well-ordered dairy, where the milk of 14 cows is put through one of Embree's big hand churning for the benefit of the Philadelphians.

Thence we "fetched a circuit," enabling us to appreciate that predisposition to irony, which, according to some authorities, forms the most salient feature in American humor, as we pass through "Feather-bed lane"—so called, as the reader will already have imagined, from its being anything but soft and easy for either team or carriage—and

to command another of those extensive rural panoramas, hitherto so many times referred to, from the hill beyond—at length passing through several fields to reach the house of Mr. LEWIS SHARPLESS, from whose piazza the battle ground of the Brandywine was again spread out before us in the distance. Here especially I had an instance of the *cleanliness* already mentioned as a prominent characteristic of Chester county farming, and there are few tracts of land of equal extent more productive, I was told, than the hundred acres owned and cultivated by Mr. S. Said the farm committee of the county society, after reviewing this farm three or four years ago—"they found the fields laid off in uniform size, and divided by fences straight and upright, and well set with grass; his corn of even growth, with luxuriant fodder and heavily eared. Though nearly three weeks have passed since we have had rain, the pasture fields were clad with a rich and abundant covering of nutritious herbage, almost as fresh and verdant as in the early summer months, while the scrutiny of your committee could scarcely point out a noxious weed throughout the fields or in the fence corners; in fine the committee point to this highly cultivated farm as an exemplar for the rising generation of farmers; here they will see exhibited the fruits of the experience and observation of half a century, and of the highly intelligent and practical mind of the veteran and energetic farmer."

The farm of Mr. S., as above intimated, contains about one hundred acres beside woodland, and the ten-acre corn-field and other crops we went to look at, afforded abundant evidence of the sincerity of the committee's compliments. He "cultivates about 10 acres annually in corn, 10 in oats and 10 in wheat; mowing about 25 acres. His average crop of wheat is about 30 bushels to the acre; of corn, 75 bushels; of oats, 75 bushels; and he estimates his crop of hay in 1860, at the high figure of 2½ tons to the acre, though the average yield one year with another will not exceed 2 tons. He applies annually between 500 and 600 bushels of lime, and about 3 tons of plaster. The farm is a grazing farm, and the average number of cattle and horses kept annually upon it is about 40."

After leaving Mr. Sharpless, we passed the excellent barn and pleasantly situated residence of Dr. BIDDLE; and, beyond, a field of 15 acres—upon whose farm I have forgotten—of which I was told that in 1859 it produced 80 bushels of corn per acre; in 1860, 50 bushels of barley, and, as we looked over the fine growth of wheat in which it was this year standing, we considered it good for at least 30 bushels of that grain the present season.

The opportunity of seeing so much of Chester Co. farming I have already ascribed to the kind attentions of D. B. HINMAN, Esq., President of the County Society, and I should add that for the ability of going over so much space in so short a time, I was indebted to the activity and endurance of his horses. With J. L. DARLINGTON, Esq., as consulting guide and pilot in general, we were thus enabled to make the best of our hours each day, but the visit which came next in order to those above described, proved by no means the least pleasant or interesting of them all—to wit, that at the residence of Mr. HINMAN himself. Here we found a most commodious barn, improved stock of several kinds, and other evidences of good farming. The barn, to begin with, is 87 by 130 feet, and contains almost, if not quite, every convenience that could be desired under a single roof, and, beyond the ordinary demands of a barn, extensive accommoda-

tions for poultry, of which there is quite a variety kept. We may hereafter be able to furnish a full description of its arrangements, which are similar to those already alluded to as characteristic of the best barns of the neighborhood, with a large lofty shed attached, enclosing a cattle yard, and having piled beneath it the winter's manure in tidy shape for rotting to good advantage. A pipe, carrying water from the eaves of the shed, is suspended above the manure heap, so that if there seems to be danger of its heating at any time or place, the water can be conducted to the required point; and the yard is made tight below so that nothing escapes. The liquid manure Mr. H. has preserved and experimented with separately I believe, but I understood him to say that the results obtained from its use were such as to convince him that the best and most economical method of employing it was by means of absorbents in the ordinary compost heap.

The much-talked-of bronze turkeys, which owe so wide dissemination during the past two or three years to the noise they have made in the papers, Mr. HINMAN has some excellent samples of, but had been so unfortunate as to lose a fine gobbler, quite lately obtained from Connecticut. I do not recollect having seen any description of the improved sort of *turkey-pen*—so to speak, for it is not a *coop*—adopted by Mr. H. from directions given by Mr. Ramsdell; it is simply an enclosure formed by four wide boards placed on edge—say 18 inches wide and at their full length—with a cover along one side of the square thus constructed, two or three feet wide, slanting enough to shed the rain. This gives a pen which the turkey hen can leave at will, but her chickens are prevented from straying out with her, since they cannot get over the sides, and so long as they are confined she will not go far; at the same time they have ground enough to scratch, shelter from storms, and room for exercise in the inside. By the time they are large enough to climb in and out, there will be no danger to them from exposure, and probably both mother and young will be sufficiently accustomed by habit to regular feeding here, to be quite domesticated, and less inclined to stray to any great distance.

In the pastures we found the Alderneys which Mr. H. ranks as *the* cattle for a dairy country; he means to prove the opinion good, by obtaining the best, and has among others a charming young bull, a grandson of the noted Massachusetts cow "Flora," and "Beatrice," a cow imported by the Massachusetts Society. The herd, moreover, includes two remarkable instances of fecundity at a very early age—a cow which had *twin heifer calves* when she was herself just *thirteen months and twenty days old*—and another cow *two years old*, with her *second calf* by her side, born a fortnight before our visit. You are two yoke of oxen, the perfect matching and excellent training of which, not less than their style and color, bespeaks a Connecticut origin, and it is a matter of no surprise to learn in fact, that they are in some measure old acquaintances. They were purchased for Mr. H. I believe by Mr. John T. Andrew.

The Cotswolds are a feature on Mr. HINMAN's farm of scarcely less importance than the Alderneys. He has a ram and two ewes imported for him from Cirencester very recently by Mr. Howard, and his flock altogether, now numbers about thirty head.

In my last I mentioned Mr. Hinman's efforts to attract the attention of Chester county dairy farmers to putting down butter for winter sale—an experiment he tried very

satisfactorily last year, and was preparing to repeat the present season. He sold in December, 1860, several hundred pounds of butter made during the preceding June and July, at 30 cents a pound, and thought that "if one-half of the butter made in the vicinity of Philadelphia during the warm months, was packed on the eastern plan, those doing it would relieve themselves of a vast amount of trouble and expense, and would considerably increase their income"—beside greatly benefitting those who have not the energy to try the experiment, by enabling them to obtain better prices during the butter season—when the market is overstocked.

Mr. Hiaman next conducted us to "Highland Home," where we made a brief call upon our occasional correspondent Mr. JOSEPH COPE, who is a veteran among good Chester County farmers, in addition to having been an early convert to the importance of possessing and breeding from improved animals. As long ago as 1839 he imported South Downs and Short Horns, having been, next to John Hare Powell, the pioneer in this good work, in that part of the country. Some of the descendants of both the cattle and sheep, were among those we had a brief glimpse of here—for our time was short—and at JOHN and FRANCIS WORTH's, where we also made a brief call. The latter gentlemen have nearly 50 ewes, I understood, in their South Down flock, and among the Short-Horns there is blood that has passed through the hands of Vail, Morris, Spencer, and others of our best breeders. A farm of 97 acres owned by one of these gentlemen, was keeping over a hundred sheep, and a dairy of half a dozen cows; and, if my memorandum is correct, the other farm—also of about 100 acres—was divided as follows: Ten acres each of corn, oats and wheat, 18 mown for hay, 10 under wood, and the remainder in pasture, on which 21 bullocks, some of them very fine, are now fattening.

— From such details as these, in individual practice, a general idea can be gathered of the system adopted by the best farmers of a considerable area. So long as Agriculture remains in its present condition—a condition in which there is so much to be learned from example, and so little from any source to which practice does not chiefly contribute—the interest of the farmer will centre mainly in such facts as he can ascertain from the common daily experience of others, rather than in speculations, or even in abstract statements of the principles that are really involved in experience. Hence I cannot think it "labor lost" to present a view of the farming of any locality, however trivial its details may now and then appear, so only that the view be as nearly accurate as possible both in little things and large. We have now devoted considerable space to the Agriculture of a region greatly favored by Nature and to some considerable extent at least improved by skillful culture; and while, as in any grazing and dairying country, we have been less concerned with the actual management of each crop, than with getting at the proportionate prominence it bears to other crops and to the amount of stock kept, such a record of the condition of Farming in such a region at least seems worthy of preservation, and may perhaps also be made to some extent, practically suggestive in other places.

There are some items that occur to me as not having been included in the general views of the County and its agriculture with which I began. Among these, is the frequency of *tenant houses* for the occupancy of at least one family on almost every farm of much size. They are put

up at a cost of from \$300 to \$400; and it is common to give the tenant for his services, the house rent and the keep of a cow, together with perhaps \$150 per year, and such other perquisites—so many bushels of potatoes for example—as may be agreed upon. I have already incidentally referred to this practice on the dairy farms; and I never find it in vogue to any extent without noting down the facts involved, and desiring to commend the system to still more general adoption through the north and east, both as a measure of relief for farmers' wives, whose share in the labors and credit of good farming should never be overlooked, and as calculated to secure in the end a much better class of assistants for the farmer himself.

Before leaving, I had a glimpse of the Nursery Grounds of J. L. DARLINGTON & Co., established in 1842, on 20 acres of land, and now having nearly a hundred under cultivation, perhaps three-quarters in fruit trees, and the remainder in ornamentals—and conducting an extensive business, especially to the south and southwest. The land is well adapted for the purpose, and its situation so near the many railroad lines that center in Philadelphia, render it accessible to any part of the country.

I also had the pleasure of calling upon Dr. WILLIAM DARLINGTON, now an octogenarian, whose accomplishments in Botany and scholarly writings have made his name familiar among men of science in both hemispheres. His *Flora Cestrica*, originally published many years ago, at once attracted attention for its systematic and correct enumeration and arrangement of the plants of the county, so much so that when the late Dr. BROMFIELD, the distinguished English botanist, undertook a similar task in the Isle of Wight, he copied Dr. DARLINGTON's system, and in acknowledging the fact in his introduction complimented Dr. D. very highly upon the success and usefulness of his labors. To my conversation with Dr. DARLINGTON I am indebted for the historical facts, to which allusion has been once or twice made in these notes, and to the map of the county, which illustrates his work, I mainly owe the means of describing its geological formations. Dr. DARLINGTON was also kind enough to enlighten me upon several points in which I had been in some confusion as to several kinds of the grasses—mainly with regard to the identity of the "green grass" of this region with the "Kentucky blue grass;" and I shall hereafter avail myself of the information, which was accompanied, I may add, with practical examples from his garden and the roadside, as we walked together to visit the rooms of the "Chester County Cabinet of Natural Science," an association incorporated in 1831, of which Dr. D. has always been a leading member, and whose extensive collections I am sorry not to have the space to refer to more at length. They include the Birds, the Minerals and the Plants of the County—the last named collection now forming a Herbarium of nearly 8,000 species, including many from distant climates and countries, as well as those indigenous to the neighborhood, and all arranged with such perfection that any one could be exhibited on demand as readily as a word can be found in a quarto dictionary.

I had also promised myself a brief review of the successful operations of the County Society, but the limits of this article have already been passed, and I can only subjoin the secret which its indefatigable Secretary, J. L. DARLINGTON, Esq., says he has found to underlie the permanent prosperity of this and other such Societies—namely, to "*interest the ladies.*" Their presence not

only adds vastly to the interest of an exhibition and the household departments to which they contribute to its usefulness, but if they are in attendance, he finds there is never any lack of the other sex, both as spectators and as competitors. I publish this secret with a deep conviction of its importance to the managers of all similar Associations, and only hope they may have the wisdom to benefit thereby.

There are many other farms which my kind conductors, Messrs. HINMAN and DARLINGTON, mentioned, but where we had not time to call—such as those of Messrs. LEWIS P. HOOPES, CALEB BRINTON Jr., ISAAC HAYS, M. B. HICKMAN, CALEB S. COPE, WM. P. TOWNSEND, D. B. HINMAN Jr., and others, whose improved stock not less than their good farm management it would have been interesting to examine. To Dr. THOMAS and WELLINGTON HICKMAN, Esq., as well as to D. B. HINMAN, Esq., and Mr. DARLINGTON, I should express my thanks for courteous hospitalities.

— So much for the farming and farmers of Chester County, Pennsylvania. Those who "have been there," will be able to judge whether these notes have anywhere failed of justice, or if, on the other hand, they have "anything extenuated." If there is any other district in Pennsylvania or elsewhere, presenting on the whole greater attractions of its kind to the agricultural tourist, I can only say in conclusion, that I have made no arrangement, as yet, *with regard to the employment of my time next June.*

L. H. T.

Cost of Making Hay—Old and New Modes.

We sometimes hear complaints that farming is becoming more difficult, laborious, and costly—and that good times have gone. As a single proof of the fallacy of this notion, we may cite hay-making. We believe the following a fair estimate of the cost of the old and new ways—the old, with the grass cut by scythe, tedded by fork or stick, raked by hand, cocked by fork, often opened and dried after a storm, pitched on a wagon and pitched off into the barn. By the modern mode, the hay is cut by two horses, needs no tedding, is raked with a revolver, and is either drawn by means of a rope or sweep, or on a wagon, and pitched by the assistance of a horse-fork with little labor. The hay-sweep, to be described and figured in the forthcoming number of the Illustrated Annual Register, enables two horses and two boys to draw 20 or 30 tons a day.

Old Mode—10 Acres.

To 7 days mowing, if erect; 12, if lodged; average, say 9	\$11.25
" days, and board,	
" spreading by hand, say.....	1.00
" raking by hand, 3 days,	3.00
" putting into cocks, 2 days,	2.00
" drawing, 3 days, two horses and three men,	6.00
" waste of quality by unavoidable wetting by rains, average,	5.00
" opening cocks after rain, &c., average,	2.00

" cost of making 15 tons of hay—1½ to the acre, \$30.25
Or two dollars a ton. The real amount was often much more. It was usually reckoned at one-half the whole cost of the hay.

New Mode—10 Acres.

To cutting, 50 cents per acre, usual charge,.....	\$5.00
" raking with horse, half a day,	1.00
" drawing, if by wagon and horse-pitcher,	4.00
" possible waste, by rain, say.....	2.00

Or 80 cents a ton.

This amount will often be greatly reduced. For example, the horse for raking is usually on hand at little cost, and the man and horse need not be reckoned at \$2 per day. The drawing, if done by a hay-sweep, would

reduce the cost at least one dollar. The danger of loss by rain becomes very small, for the hay may be cut by the mowing machine just whenever weather and hands render it safe and convenient; and not during all weathers, as formerly, when hands had to be kept closely at it, to get through before the end of summer. The hay-rake, horse-fork, and sweep, will place several acres of dry hay under cover in a short time, and a respectable share of prudence would thus almost entirely obviate the danger of injury from rain. Good machines, and every facility arranged in the best manner, combined with farming so good as to give two to three tons of dried hay to the acre, would probably enable the energetic and intelligent farmer to secure his crop for *fifty cents a ton.* Improvement, here, has decidedly the advantage.

PRESERVING FRUITS.

A correspondent of the Prairie Farmer gives the following as his method of *preserving strawberries* :—" They should be gathered on a warm, dry day, carefully hulled, then plentifully covered with a preparation of good rich cream and powdered white sugar; after which they should be masticated as quickly as possible, and, if convenient, as suddenly swallowed."

This we know to be an excellent method, and it will apply to other fruits. The principle involved, and for which we quote it, is—fruits are best and most economically used, when eaten in a *fresh state*. Manufacturing "preserves" is laborious; sealing up in bottles requires time, work, and skill; although each mode may be adopted to a moderate extent. But the main thing is to provide the *circle of fruits*, so that a fresh supply may be had the year round as different sorts successively ripen. Strawberries will begin the summer; the early cherries will follow closely after; later cherries, currants, gooseberries, raspberries, and the Rochelle blackberry will continue the succession for several weeks. Early apples, early pears, the primordial plum, and apricots, all make their appearance by wheat harvesting; following soon after, are numerous other varieties of pears, apples, peaches, plums and grapes, which furnish a rich profusion till nearly winter. After this time, the chief reliance must be on winter apples and winter pears, and well ripened grapes. Pears, well managed, will keep till spring; the only difficulty is, they are too sparingly raised. Apples prolong the supply into summer, if good keepers are in abundance, and the proper kind of apartments provided—namely, such as are neat and clean, cool and dry. Grapes will keep till spring if they have been well grown and ripened; if raised and half ripened on crowded, neglected vines, they will freeze if the apartment becomes cold, and shrivel and dry, if it is not so moist as to make them mouldy.

THE HUNTER WEEVIL.

ENS. CO. GENT.—The principal motive for writing now, is to introduce to your acquaintance, what to us is a new visitant, that we are desirous to get rid of. For the first time we are having our corn cut off by this ravenous bug. They are spreading rapidly, and their destructive propensities are about as marked as that of the locust. They first attack the root, girdling it above the seed and upper (lower?) roots. This causes the blade to wilt as if eaten by the cut-worm. Then they feed on the stalk. So far, my information I have gained from others—also that ashes, lime, plaster, salt, &c., have no effect on them. Can Dr. FITCH or yourself give us a remedy to arrest this pest, and thereby prevent the destruction of our corn crop? If so, do not delay doing it, as it is of vital importance to all. W. M. BEAUCHAMP. Skaneateles, N. Y., July 1.

The insect from W. M. BEAUCHAMP, Skaneateles, N. Y., is the Hunter weevil, of which we gave an account in CO. GENT. 1855, vol. v. p. 373, and again noticed August 6, 1857. I can add nothing more to these accounts.

ASA FITCH

VISIT TO CURTIS COE'S APIARY.

One of the most successful managers of bees in Western New-York, on a moderate scale, and on the old system, is CURTIS COE of Cayuga Co., who resides about two miles from the village of Union Springs. He has at present about a hundred and fifty hives, and derives an annual revenue from the sale of the honey, greater than most farmers raise from a hundred acres of good land. He has been in the business many years, and has derived most of his knowledge of bees and their management from his own close observation and experience. He has an additional advantage,—in not finding any particular inconvenience in being stung a dozen times or more in a day, should he chance to become mixed up with a pugnacious swarm. A brief notice of his management may be interesting and useful to the inexperienced.

He adopts a simple box-hive, with a door and pane of glass on one side, and vacancies for glass boxes above. Artificial as well as natural swarming is extensively employed. The present being an unfavorable year, the increase has been only about a dozen of each. He has employed the movable combs on a plan of his own, but has not adopted it extensively, the crooked combs rendering it inconvenient. Guide combs being always placed in his hives before the swarm is introduced, so that the combs may be made edgewise against the pane, he is enabled to inspect the operations to some extent at any time. This arrangement also enables him to secure young queens for artificial swarming, their cells being usually on the outer edges. A puff of smoke sends the bees off of these, when a long-bladed knife, reached up in the slightly raised hive from below, cuts them off, and they drop and are secured. In a few days, if taken at piping time, they come out the perfect queen.

The hiving of natural swarms is easily done. A hiving-box, consisting simply of any box holding nearly a half bushel, with one side open, is attached to a pole, as shown in Fig. 1. When the swarm comes out, the operator takes this box by its handle, the box being held over his head, and walks slowly in the midst of the flying swarm. They often alight upon it, and enter its open side. As soon as they begin doing so, it is placed in a fixed position against a fence or tree, or a crowbar hole is made by an attendant, into which the handle is inserted. When the bees have all settled, it is carried to the hive, which is standing in its proper place among the rest, and under which a temporary shelf has been placed, as shown in Fig. 2, and the bees are emptied by a slight jar upon this shelf. They immediately find their way into the hive. It is best to empty out two or three successive portions at a time; and if they do not at once find the entrance, a quill sweeps a pint or two within, when their call is sure to attract the rest.



Fig. 1.

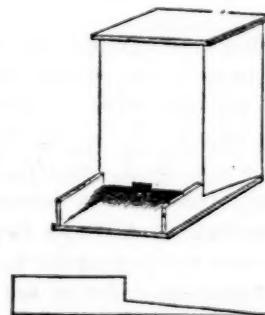


Fig. 2.

This shelf is made so as to raise the front of the hive

about an inch or inch and a half high in front, and to keep the other sides closed; it consists simply of a board about twice as large as the bottom of the hive, with a board, cut as shown in fig. 3, nailed to each side. When the bees have all entered, it is withdrawn. The whole process is usually completed in a few minutes. When the swarm does not alight in the hiving-box, but on some adjacent tree, the box is held up against the spot, *as soon as they begin to cluster*, when they leave the tree and pass into the box; or if they do not, a few jars with the side of the box induces them to loosen their hold, and enter it. The operation is easily performed, and only a minute or two is occupied in their clustering. One or two boxes, with long poles for handles, are provided for such swarms as settle too high up for ordinary reach.

The loss of a newly hived swarm, occasioned by their leaving the hive, which occasionally occurs to the owners of bees, has been prevented in this apiary, so that a single loss of the kind has not occurred in twenty years. It consists in simply placing the hive flat on the bottom board for a few days, instead of raising it at the corners the third of an inch, as is always practiced with established swarms.

Four honey boxes are usually placed in each hive, in a chamber, entered by a door, in the upper part. These boxes are in the form of a cube, measuring about six or six and a half inches on each side. The top and bottom are made of half inch boards; the four sides of glass. The edges of the boards are merely rabited to receive the panes, and they are held together by strips of tin on the corners, shielding the edges of the glass, and holding every part in its place. (Fig. 4.) The strips of tin are half an inch wide and seven and a half long; they are folded longitudinally so that the two parts, each a quarter of an inch wide, stand at right angles, and thus form a corner edge of the box, and receive the edges of two



Fig. 4.

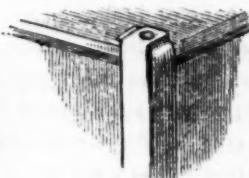


Fig. 5.

panes. They are fastened to the top and bottom board, as shown in Fig. 5, the tin having a short slit in each end, so that one part overlaps the other, and a single tack secures both to the wood. These boxes are quickly made, exhibit the honey handsomely for market, and are manufactured for 18 cents each. They will hold six or eight pounds of honey in comb. As soon as they are filled, which may be determined in a moment by inspection, they are taken out and replaced by empty ones, to be filled in turn. Three holes, each an inch in diameter, in the bottom board, are bored smoothly with a bit, so as to coincide with three holes in the top board of the hive; and when they are removed, two strips of tin are pushed in under the box, one to shut the bees down into the hive, and the other to secure such as are in the honey box. One strip is taken away with the box, and the other left on the hive. The bees are easily driven out, by placing the box on another box of wood of the same size, and open only on the top, of which the honey box forms the tight cover. A slight and frequent jarring motion on the knee drives all the bees down into the dark box, where they soon cluster, and they may be emptied back on the shelf of the hive from which they were taken, or of any other hive not sufficiently supplied with bees. The middle of the day is selected to remove honey boxes, being then least occupied by bees, and especially by drones, which are the most difficult to drive out. Guide combs are placed so that the combs may be made with the edge to the eye, and a narrow stick of comb is also placed so as to extend down through the middle hole.

The honey being secured as soon as the boxes are full, and while the comb is yet perfectly white, commands the highest price, and has sold in the New-York market at 30 cents a pound at wholesale.

J. J. T.

FARMING IN CAYUGA COUNTY---I.

The County of Cayuga, in this State, has long stood prominent as an agricultural region. While it is not first among the counties of the State, for any prominent crop, it holds an important place for the production of wheat, barley, oats, corn, potatoes, apples, hay and buckwheat; few counties equal it in the number of horses, sheep and swine, and it exceeds three-fourths in the number of cattle. In short, the characteristics of its products are those of a mixed husbandry,—the most profitable of all farming where soil and circumstances admit. The southern half of the county is generally a strong loam, and in some portions quite clayey. It is mostly very fertile, and will yield with underdraining and good management, thirty bushels of wheat, sixty bushels of corn, seventy of oats, and two tons of hay per acre, although there are instances where 130 bushels of corn and 60 bushels of wheat per acre have been produced. The best farmers are not satisfied with less than three tons of hay, which they sometimes exceed. As a general rule, however, the crops of the majority of the farmers do not exceed 20 bushels of wheat as an average, one and a half tons of hay, and thirty or forty bushels of corn. The northern half of the county is a lighter soil, or sandy and gravelly loam; some of it needs no underdraining, but being less retentive of manure, it cannot be brought up to the extreme degree of fertility which may be given to a thoroughly drained heavy soil.

In giving the readers of this journal some imperfect sketches of farming in this county, examples will be cited that are worthy of imitation, or from which useful lessons may be learned. Medium farming may be found everywhere, and will not need any notice; while the worst specimens, or such few as exemplify shabby management, need be only briefly mentioned by way of caution, and may be alluded to at the close of these notes.

FARM OF GEORGE H. CHASE, Springport. This contains 150 acres, and lies two miles east of the village of Union Springs. The proprietor is one of that successful class of men, who were not brought up to agriculture, but who by bringing their energies to bear upon it, and seeking every means of information, outstrip many of their neighbors who have devoted their lives to the pursuit. He took charge of this farm when a minor, and when, as he remarked, he did not know wheat from barley. He has occupied it seven years, and during the first half of this period, made but little pecuniary gain. As a proof, however, of his present progress, his farm has doubled in market value, in consequence of the improvements in draining, buildings, &c., all of which were paid for by the products of the land. It was bought at about fifty dollars per acre, and the owner has recently received an offer of one hundred per acre.

He has laid down fifteen miles of tile drain, mostly within the last three years, and the results have been entirely satisfactory. As a proof of its advantages, he stated that one field of 12 acres, yielded before draining but 500 bushels of ears of corn; it was afterwards sown with barley and seeded down to wheat. While in grass, it was regularly tile-drained. The next crop was 1500 bushels of ears of corn, 120 of potatoes, 60 wagon loads of pumpkins, and 33 loads of stalks.

He has fully proved the advantages of heavy seeding to grass. A meadow of 16 acres was partly cut when visited; 14 loads of hay had already been drawn, with apparently very little impression made upon it—he esti-

mates the crop at 3 tons per acre, but it will doubtless exceed it. This field was seeded two years ago with a peck each of timothy, red top, and clover, per acre, or three pecks in all. He has in some instances used a bushel of seed per acre to great advantage. Adjoining this meadow, was a 22 acre field of barley, the first crop of this grain since it was tile drained. His barley has commonly averaged 30 bushels per acre, but this is much heavier; from the appearance of the ripening field, it would doubtless yield from 35 to 40 bushels.

The hay is cut with a two horse machine, raked with a horse, and pitched into the barn by means of a horse-fork—thus rendering the whole expense of securing the crop comparatively small. The roadway to his barn not being quite completed, he pitches the hay through a door at one end, the bottom of which is 25 feet from the ground below, requiring lifting of the hay over 30 feet; yet so rapid is this mode of unloading, that 22 two-horse loads were thus passed through this door in half a day, from successive wagons. As soon as the load is drawn to its place, the horses are taken from the wagon by simply withdrawing the bolt, and attached to the rope which elevates the hay. The load is discharged in a few minutes, when the horses are returned to the wagon, and pass off for another load. This mode is familiar to some of our readers, but is mentioned as another proof of the labor-saving character of the horse fork.

The winter feeding of cattle has proved one of the most profitable departments of farming. They are not stabled, but are allowed to run loose in a large covered shed, formed of the basement of the principal barn. This basement is high, and extends under the whole building, and is kept perfectly clean by litter. It fronts a yard which is entirely sheltered from winds by side buildings. Special care is taken to avoid crevices through which wintery winds may find their way, the proprietor regarding these partial currents as one cause why the system of shelter is in so poor repute with some slip-shod farmers. A platform scale is placed easily accessible to the yard. The cattle are often weighed, and experiments have been freely made to test the best system of feeding. Hundreds of dollars have been already saved by the knowledge which the weighing of animals under the different modes of management has imparted. A single example may be given: A fine steer feed daily with four quarts of barley meal in addition to his fodder, was found to gain regularly 18 pounds per week. A neighbor urged the proprietor to "push him," that is, to feed much higher, in order to see what might be accomplished by way of increase. Eight quarts per day were accordingly given him, when the increase immediately became less, and on giving twelve quarts *he gained nothing!* Moderate feeding is therefore found most profitable in every respect, by maintaining a healthy digestion.

About fifty head of cattle were fed last winter, and were sold early in spring, at an advance of twenty dollars per head over the price when purchased late in autumn, besides furnishing manure enough for thirty acres.

FARMS OF E. T. T. MARTIN, Esq., and of Ex-Gov. THROOP of Owaseo. The former of these consists of several hundred acres, mostly farmed to the shares, but under the eye of the proprietor, who is chiefly occupied with other business. One of the first things that strikes the eye, is the neatness of the public highways, the road-tax being paid in money, but enough reserved to pay for mowing all the weeds, and keeping the whole in proper

condition. Tile-draining is extensively adopted, and in addition to placing tile in the ditches, they are half filled with the refuse stone of the fields. Post and board fences are employed throughout; the cost, including materials, being about \$1.12 per rod. Hemlock boards and swamp white oak posts are preferred; and the average period of their duration, when well made, is about twenty-five years. As soon as the boards begin to loosen from the posts by decay, which is usually not much sooner than twenty years, upright battens are nailed upon them, which makes them good five or six years longer. Battens are not allowed until this period, as they would increase the tendency to decay. Some fences of this kind, made twenty years ago, presented a good substantial appearance.

The proprietor has given some attention to hedging, for garden screens. The privet, which had stood and formed handsome hedges for forty years, has been destroyed by the late severe winters. Buckthorn has been successfully substituted. The English hawthorn did well till it became covered with the wooly aphid. To destroy this insect, the whole was cut down to within a few inches of the ground, and burned. The stumps were whitewashed to destroy the remainder, (soap would perhaps have been better,) and are now sending up a thick growth for a young hedge, the insect having disappeared.

The residence of E. T. T. Martin is built in the Italian style, and is surrounded by extensive ornamental grounds, laid out and planted with admirable skill, and kept in finished order. The view from the library window is surpassingly beautiful,—embracing a smoothly shaven slightly undulating lawn of several acres, bordered on one side with a fine ornamental garden and trees, on the other by the picturesque forms of old willows, elms, &c., possessing an exceedingly rich combination of foliage, beyond which was the curved outlines of grain fields and more distant woods on one side, and the blue waters of Owasco lake on the other.

A drive of half a mile through the lawn, among groups of trees, and along the margin of the lake, brought us to the residence of Ex-Gov. THROOP, whom we found in the activity of full health, devoting his time now in advanced years, to agriculture and gardening, in both of which he is very successful. His farm contains over a hundred acres. He showed us a fine field of Soules wheat, which would probably yield thirty bushels to the acre, uninjured by the midge. This insect appears to be passing away, and now scarcely touches good fields of grain on oak land, the strongest wheat soil, although it does some damage to crops on beech and maple land, which are second in quality for this grain.

The drive from the public road to Gov. Throop's mansion, is through a plantation of trees, set out only fifteen years since, but now forming a finely shaded carriage road, over which the branches meet. The belt through which it passes is only three or four rods wide, but it forms perfect seclusion from the adjacent fields. Some of the silver maples measured 14 inches in diameter, and a European plane tree 16 inches—indicating a rapid growth for this short period. When small, the ground was kept well cultivated with potatoes and other low hoed crops for several years, among these trees, until they became vigorous and well established. Neglected, as many are, they would have been at the present time but little larger than when set out.

On the farm is one of the finest plantations of orna-

mental trees to be anywhere met with, standing on an elevated piece of land, and commanding a beautiful and extensive view of the lake and surrounding country. It would afford an admirable site for a fine residence, the trees being already on the ground. This fine plantation was procured in a very simple manner. The wood which formerly covered it was sold for fuel, standing, at \$40 per acre, and all trees less than ten inches in diameter were reserved. This was the whole process—they have now thickened and spread their broad branches, and form fine park trees.

Considerable attention has been given to hedges, and different plants for this purpose have been tried. The English hawthorn has succeeded well, but on account of the disasters to which it has been liable elsewhere it is not regarded as reliable. The Washington thorn has done still better. Gov. Throop thinks well of the native crab apple, and had some hedge planted with it. The seed was procured from a native tree growing near an orchard, and as a consequence they were hybridized, and the hedge shows among some of the trees strong indications of this mixture. The climate is too severe for the success of the Osage orange, and it has been discarded. The Buckthorn is preferred to all others. A very fine hedge of this plant set three years ago, now in its fourth summer, was three feet and a half high, and over four feet wide at the bottom, trained with sloping sides to a peak, and the interior stiff and dense. The plants were placed 15 inches apart, to which, with good culture, and proper cutting, is ascribed the vigor and success of this hedge,—crowding the plants to within a few inches of each other being deemed detrimental to their best growth.

In the kitchen garden were nearly full grown water melons and musk melons, which, for so early a period in the season, (before wheat harvest,) may be regarded as excellent success. They were planted in the hot-bed, and when the other plants were taken out the earth was supplied around them. The hot-bed, being made in a pit, they now occupy merely a mound. Beneath them there are about two feet of forest leaves, two feet more of manure, and eight inches of earth.

J. J. T.

• • •
[For the Country Gentleman and Cultivator.]
BLIND DRAINS.

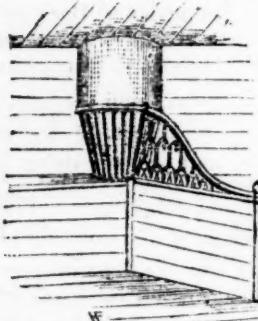
As there has been so much said in favor of blind draining, I don't know as it is of any use to say more; but in passing a field, and to see here and there an eye-sore, a wet springy spot that is necessarily left unplowed, and producing mere nothing, I think the owner needs draining preached to him still. It is the panacea for wet or dry weather. I plowed some naturally wet land last May, that had been blind drained, which was as mellow as a person could wish, while most of the soil, not artificially drained, was filled with water, and not fit to work. I had occasion to dig through a drain last week that had been put down in September, 1854, for the purpose of giving an outlet for some water coming out higher than the ditch. The grass looked much more luxuriant as we neared the drain; in digging down found the roots of the grass extending down to the tile, two and a half feet from the surface, while three rods from the drain you could distinguish no roots of grass more than ten inches. You can get larger crops of any kind where the roots have a chance to extend, than to be confined near the surface to keep out of the cold spring water. It deepens your soil and enlarges your crop. I find it pays.

Tom.

Sketches of Seneca County Farming

In a recent short tour through Seneca County and a small portion of Ontario County, in this State, during which I visited some of the best farmers, so many objects of interest were observed that I am induced to furnish a brief sketch of the journey for the readers of the *COUNTRY GENTLEMAN*. The enterprising exertions of the late JOHN DELAFIELD, and the practical labors of JOHN JOHNSTON, who, as is well known, long since introduced and carried out an admirable system of husbandry, aided by others, have rendered this beautiful and fertile lake region one of the finest and most interesting portions of the country.

One of the most thorough and successful farmers of the county is JOSEPH WRIGHT of Waterloo—which is the more worthy of note when it is borne in mind, that the cultivation of the soil is not his principal occupation, but rather an appendage to his business. His residence is in the village, and is immediately surrounded with ornamental planting and provisions for the luxuries of fruits, (among which is a fine cold grapery just beginning to afford ample supplies,) and the conveniences of nearly perfect out-buildings. His spacious carriage house and stables are models of neat-



ness and elegance. The accompanying sketch furnishes a very imperfect representation of the partitions of his horse stalls, and the cast-iron rack and manger. The stable is 15 feet wide, and the ceiling is 12 feet high; the hay passes down from the hay loft above through the semi-cylindrical iron opening, 4 feet wide, directly into the feeding rack, which is 3 feet high, and 4 feet wide at the top and 2 feet at bottom, and supplies two stalls. Cast-iron posts receiving horizontal plank form the partitions, which are surmounted or capped with a strong and ornamental cast frame. The cast-iron manger is 15 inches wide. Drainage in each stall is effected through a perforated cast plate, slightly concave, one foot square, set in the floor, as shown in the figure. The whole is kept nearly as neat as a parlor.

J. Wright cultivates about 260 acres of land in three portions or farms; one of 80 acres north of the village; another, known as "Peck Slip," of 25 acres, on the western side; and the third, his principal farm, of 150 acres, a mile or two distant, on the southeast side, and known as "Silver Creek" farm. The Peck Slip farm is sandy soil, a large part reclaimed from scattered bogs by filling in and by through underdraining, and it has been made highly fertile by manuring. Corn is raised on this soil with great success; the large Dent variety, such as is cultivated in central and southern Ohio, has been chosen for this purpose, obtained from the neighborhood of Columbus, and selected for its compact ear and small cob. This variety would not succeed on common land, but on this soil it has never failed to ripen, even when planted quite late. A crop of several acres now presents a luxuriance of growth scarcely ever equalled. If there was any equal to it in Ohio or Indiana last year, I did not see it in my journey through those States. The hills are planted $3\frac{1}{2}$ by 4 feet apart, yet the leaves fill the space so that the eye can see but few feet distant between the rows. It was not yet in tassel, but averaged in many places 9 or 10 feet high, and one stalk, not much above the rest,

measured, as it stood, 11 feet high. It will probably be 16 feet high when matured. The crop is estimated at 100 bushels per acre. This sort has yielded here 213 bushels of ears; a bushel and a half of heaped measure has given when shelled a rounded bushel of the grain—great pains having been taken in selecting the seed in Ohio, with a view to a small cob and a heavy covering of grain. It is thought to yield more on this land than the smaller sorts, and still more largely of fodder. The stalks are cut for feeding by steam power, by means of a large machine, which cuts and tears to pieces between toothed cylinders so that yearling colts will freely eat these large and coarse stalks. This machine is manufactured at Harrisburgh, Pa., and is quite similar in its operation to Hickok's cutter, which I have used to equal advantage.

A single bin, holding about 30 tons of feed, is used for storing meal, shorts, &c., whenever they may be purchased cheaply.

The fertility of the kitchen garden on this farm, was shown by a small plantation of horse radish of one or two square rods, which was set out last spring, the leaves now forming a dense even growth covering the whole surface two feet nine inches high. Dwarf pear trees have been cultivated successfully for about twelve years, and have borne abundantly until the present year of general failure. Peach trees grow too luxuriantly; for after bearing some years, and being treated in the best manner of shortening in, they were destroyed by the late severe winter. On less fertile soil, they have survived. The same remark applies to grapes—those on dry knolls, where the soil is not so rich, were not injured last winter, while others of more succulent growth were destroyed. The Osage orange has proved successful for hedges, and formed an impassable barrier around the gardens and orchards. The buck-thorn has also been used, and forms a handsomer screen, but not so efficient a hedge for the farm.

The Silver Creek farm of 150 acres, is devoted to general mixed husbandry, consists of strong heavy loam, is clean and well fenced, and produces fine crops. Fifteen hundred loads of swamp muck were drawn last year into the barn-yard, and a part of it having become well mixed with manure, has been drawn out. The remainder has been left for another season, the muck being better to remain a year or two. Tile draining has been extensively practiced; and some portions of the farm that produced only coarse grass and skunk cabbage, have become valuable and productive. One of the drains has been laid with tile of *one foot* orifice, a large stream at some seasons nearly filling it, and being let into it through a grate and bed of stones. A vineyard of ten acres, three years old, the land regularly tiled 20 feet apart, already bears some fine fruit, and gives promise of great success. The vines are planted 12 feet apart each way, and five perpendicular stakes are to sustain each when fully grown—five vertical canes, from horizontal arms, being grown to each vine, and a stake provided for each cane. Three stakes had already been inserted and the rest are to be added another year. The renewal system is to be adopted. The heavy loam, devoted to this vineyard, is found decidedly better than the sandy or light soil on the other side of the village.

A very neat brick dairy on this farm, is worthy of a passing notice. The pens are set on frames or racks and the temperature controlled by means of a large chest filled with ice, drainage from which is effected through a lead pipe. There is a large ceiling ventilator, and wire gauze

screens at the windows. Among the animals were some fine pigs, a cross between the Chester Whites and imported Yorkshires. They were about two months old, and would weigh nearly a hundred pounds—the manager insisted, perhaps rather extravagantly, that they would come up to 700 lbs., when fully grown. The want of time prevented me from seeing the cattle, which are mostly grade Short-Horns and some full bloods. A large portion of the business of the farm is raising road-horses—of which there are about ninety head in all, only a part being kept here. The stallion *Ratler* is a superb animal, and there are some young animals of high promise.

From Waterloo, a ride of a few miles brought me to JOHN JOHNSTON's, on the banks of Seneca Lake. He has over 100 acres left, after the sale of most of his farm. The readers of the COUNTRY GENTLEMAN are already familiar with his great success as a farmer, and little need be added here. His fences are post and board, the posts being "second growth" chestnut. Some have stood 22 years. The original trees of the chestnut are of little value. He intends to adopt the plan of doing most of his plowing with three horses—being so near the plow they work to great advantage and efficiency. His tiles, which were choked by the roots of the black walnut and other trees, even when some rods off, have never been injured by the roots of the apple orchard, among which they were laid fifteen years ago, and he infers that no damage need be feared from orchards. He possesses some admirable grade cattle, among them a steer, a cross of the Hereford and Short-Horn, four year old, and weighing 2,500 lbs. He was gratified to hear of the experiment in feeding mentioned in the recent report of G. H. CHASE's farming in the COUNTRY GENTLEMAN, where accurate weighing and measuring showed a more rapid gain from moderate than high feeding. Accompanying me over the adjoining farm of ROBERT J. SWAN, so many objects of interest were observed that a brief notice cannot fail to be interesting, although the proprietor is averse to public notice. The farm contains 350 acres—all has been regularly tile drained—and for neatness of appearance, combined with high productiveness, there are few to equal it. The fences are all made of posts and boards; the barns and out-buildings are extensive, complete, and well finished and painted. From the top of the mansion a magnificent view is obtained of Seneca Lake and a wide territory of fertile country. A field of wheat, just cut and shocked, was shown me, containing 20 acres, the land formerly so wet from numerous swales that it could not be easily traversed in spring with horses, but which, having been tile-drained, the present crop is estimated by John Johnston at over 30 bushels per acre. It is Soule wheat, and appears to be entirely free from the midge. A fine field of oats, nearly ripe, was estimated at 70 bushels per acre.

Two teams with three wagons were drawing in wheat from another field, so that one wagon successively stood with its load in the barn, the grain being pitched off at once to the thrashing machine, which was driven by eight horses, and was thus kept constantly running. About 500 bushels were thus thrashed in a day, and one transfer by pitching saved. The owner prefers the beauty of some shade trees, to the slightly increased profit of being entirely destitute of them in his meadows and pastures. Several large and broad black walnuts had nearly destroyed the clover as far as their roots had extended on either side,—showing two or three important facts worthy of the

observation of orchardists. First, that the depth of clover-roots causes this crop to interfere badly with the roots of trees, and the two cannot grow well together; in the present instance the walnut proved the stronger. Secondly, that roots extend much further than some writers have indicated; the radiating streaks, bare of clover, measuring from the trunk on each side, about as far as the height of the tree, or with a diameter about double its height, and far beyond the spread of the branches. This shows the absolute necessity of broadcast cultivation of trees.

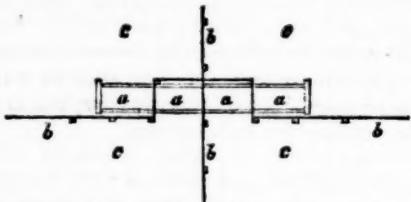
On the other side of the lake, nearly opposite, I called at GEORGE STONE'S, who has occupied a small farm of about 60 acres for a few years. He has built a fine mansion, and remarkably neat and tasteful barns. He has reclaimed two pieces of land and put them in grass, one of which yielded about $2\frac{1}{2}$ tons of hay per acre the present year, and the other slightly over three tons per acre. A field of 12 acres, occupied with a crop of white wheat, was estimated by John Johnston at over 30 bushels per acre. Until within a year or two, it had been regarded as nearly waste land, and was so unproductive as to be thrown open as common. It was thoroughly tile-drained, limed with 75 bushels per acre, and sowed with wheat, and this heavy crop was the result.

Two miles westwardly from George Stone's, is the beautiful and extensive farm of JAMES O. SHELDON—formerly occupied by Gideon Lee. It is entered on the east by a private road, which passes across a fine, broad, rich valley, through the center of the farm, a half mile or more to the residence. The fields are occasionally interspersed with roads spreading stately elms, and other trees. The low afternoon sun gave them a peculiarly rich coloring of light and shade. The proprietor is widely known as possessing one of the finest and most extensive herds of Short-Horns in the country. The cultivation of the 300 acre farm is a secondary object. The stables and farm-buildings are extensive, commodious, and highly finished; the principal one in which the finest cattle are kept, is about 150 feet long, and has an airy and elegant appearance within, rarely equalled in such buildings. The herd of Short-Horns is now over 50 head, and consists of many admirable selections. The imported Grand Duke of Oxford appears to be a perfect animal—he weighs now 2,700 lbs. There are about ten head of fine Alderneys. From all his animals he manufactures about 1,200 loads of manure annually; it is wheeled from the stables to a hollow or broad shallow pit at one side of the yard, and with the copious litter used, forms by decay excellent manure. The water from the eaves is kept from it; and the direct fall of rain on the heap is not more than is required for a proper degree of moisture and natural evaporation. Each barn has such a heap; and being placed at one side, does not at all interfere with the neatness which characterizes the barn-yards, which are smoothly gravelled over their whole surface, and kept in finished order. The crops are generally quite good; a field of 11 acres of white wheat, just cut, has been scarcely equalled, different farmers of experience having estimated the crop at 40 bushels per acre. The land was tile-drained. The fish ponds, one of an acre and the other half an acre, supplied by a copious stream, contain an abundance of fish, but no estimate has been made of the amount they will furnish the family—which I was informed is much diminished by the larger preying on the smaller. Would not the introduction of some of the smaller kinds, which increase rapidly, assist in the supply of their food?

H. T. E. FOSTER's farm of 230 acres is handsomely situated on the east side of Seneca lake, in Seneca County, six miles southwardly from Geneva. It extends with a gentle slope down to the banks of the lake, which is here two or three miles wide, and the rich fields, trees lining the margin, the expanse of water, and the rich country in Ontario, like a picture in the distance, all render the locality one of great beauty. The farm is fenced neatly with posts and boards, and the whole has a clean and finished appearance. The crops are good, but not equal to those observed on some other farms. The land is not regularly drained, but only the wetter portions.

The importance of sowing grass seed early, was shown by two portions of the same field, one of which was seeded on wheat very early in spring, and which presented a dense and even growth of grass; the other, sown later on barley, and marked with numerous bare patches.

Very fine grade animals are raised on the farm; I never saw more perfect half blood Durhams than a young herd from fine native cows and a full-blood bull bought of R. A. Alexander. Twenty-six head of cattle are kept, and about 270 head of sheep; and about 600 loads of manure are made annually. The buildings for winter shelter are ample; spacious protection is provided in different apartments for the sheep, and one for the lambs, of which none are lost. The amount of fresh air they may receive is easily controlled by folding horizontal doors. In the apartment for feeding calves they eat from a common manger, but vertical divisions, leaving the openings smallest at bottom, prevent their interference. For the information of others who may wish to construct similar feeding places, the dimensions are given: Breadth of openings at top, (through which the animals thrust their heads,) 20 inches; height of the same, about four and a half feet, terminating at a point or angle at the bottom, the opening being in form like the letter V. The spaces between are boarded up about two feet, and a ring placed about 20 inches high, to which to fasten them if desired. Fattening cattle are allowed the run of a sheltered yard, except when feeding, when they are shut in the stalls, with swinging gates to separate them. Cows are attached to the mangers by means of a chain fastened around the neck with a cross bar and ring. A ring at the other end of the chain slides up and down about one foot on a vertical iron rod, in the form of a long staple, allowing each animal to rise and lie down with facility. A gutter or depression below the floor one foot wide, and five inches deep, receives all the droppings for the day when they are thus kept to their places by chains; and the bottom of the gutter being flat, all is easily shovelled out with a square shovel. Water is brought



a. a. a. a., four different portions of trough—b, fence—c. c. c. c. the four yards.

to the animals in four separate yards by a pipe pouring into one trough, by an arrangement as shown in the annexed diagram.

The granary consists of several bins holding 300 bushels each, and the floor is about 5 feet above the ground outside, where a door opens, and through which a wagon may be loaded with grain without lifting.

Leaving this farm, a drive of twelve miles along the banks of Seneca lake, with its broad sheet of water on the right, and fertile farms on the left—the banks often handsomely lined with oak trees, under the wide branches of which, and between the scattered masses of red cedars, the blue waters were partly seen—and over a road badly made of excellent materials, with some rickety decayed bridges, brought me to Ovid landing, the foot of the STATE AGRICULTURAL COLLEGE farm. This farm, as many readers of this journal know, contains about 700 acres, and is two and a half miles long, the college buildings being placed about the centre. Like the whole southern portion of the county of Seneca, it is a strong loam, with high natural fertility, and although it may vary somewhat in different parts, does not possess the several distinct kinds of soil, which some have supposed. It is in a good state of cultivation, and was covered with abundant crops of grain and grass, on which the mowers and reapers were at work. The head farmer receives a salary, and hires about eight men to do the work, besides some assistance from the students. Most of the products are consumed by the institution. Besides young cattle, there are 28 milch cows, which are milked by four students, (who thus pay in part their expenses,) and the cream is churned by them.

But one wing of the college buildings has been erected, but is sufficient to afford accommodations for 150 students. Its cost was between 40 and 50,000 dollars. It is most substantially built of brick, with stone basement and slate roof, the brick, stone and lime being supplied from the college farm. It has an imposing and fine architectural appearance. The view of the surrounding country is magnificent. The interior of the college is spacious and commodious in every part. The sleeping apartments are rarely equalled; each bed-room lodges two students, in separate beds; and attached to each room is a parlor or sitting room about 15 feet square. All are warmed in winter by means of Chilson's furnaces, and ventilation is well attended to. The number of students last winter,—the opening term—was about twenty; the present number between thirty and forty. If there were fifty, the institution would pay its present expenses. Three Professors are employed. The course consists of the Mathematical and Natural Sciences, and their application to Agriculture; the languages, ancient and modern, are not taught; although some of them obtained elsewhere, would assist in the acquirement of the sciences. The students all pursue practical labors one hour each day, in becoming familiar with tools and machines, and farm operations generally. It is the aim of the managers to make them acquainted with all the best farm machinery of late introduction. The chemical laboratory is worthy of particular notice, being a model for neatness and convenience. The apparatus for analysis is of great excellence, most of it being imported by Prof. Kimball from Germany; a balance of extraordinary delicacy (the usual price of which is \$100) was made in New York. In the adjoining library, I observed many French and German, as well as English standard works on this science. On the whole I was much pleased with the college and the manner in which it is conducted, although it is unfinished in many respects; and it is doubtless doing much good, and would become eminently useful if some \$200,000 or more could be added to its capital. The present disastrous war prevents this addition, lessens the number of students, and withdraws in part, the valuable superintendence of its excellent President, M. R. PATRICK. If the buildings were completed, and a fund large enough

added to secure its safe running, independent of temporary contingencies, it would be, in connection with its large and fertile farm, a magnificent and successful establishment.

The southern part of Seneca County maintains a high reputation for successful agriculture. From Ovid Landing on Seneca lake, to Kidder's Ferry on the Cayuga, I observed an almost continuous succession of fine farms. Wm. KINNE, near Ovid village, has 206 acres, which he has mostly paid for by the crops formerly raised upon it. Draining has been extensively practiced. The proprietor stated that with the assistance of the ditching plow to loosen the subsoil, which is then thrown out by shovels, he has been enabled to cut drains two feet and a half deep for *eight cents a rod*, and that he regards it a great saver of labor. A field of thirteen acres of Soule wheat I have scarcely seen surpassed; he estimated it at 35 bushels per acre. Another field of Canada Club spring wheat was turning yellow, and will afford a large product. He prefers this to the China Tea wheat—the latter is however more generally sown, and many crops of unusually fine appearance were observed through the County. A large field of corn on this farm promises about 70 bushels per acre. It is scarcely needless to add that the owner admitted that "farming pays."

In the same neighborhood is the fine farm of HUGH CHAPMAN, containing 177 acres. On this farm over \$4,000 were expended in tile draining. The fences are chiefly of rails and vertical stakes, secured by caps or wire. The whole had a neat and well cultivated appearance. The crops were equal to those on the farm of Wm. Kinne. A superb field of oats, standing erect and nearly ripe, was estimated at 100 bushels per acre, a frequent product. A fine stock of road horses is raised on this farm, but the owner thinks grain raising the most profitable part of husbandry.

Calling at the residence of JOHN V. GROVE, near Cayuga lake, in this town, he was unfortunately absent. The appearance of his crops indicated very evidently that he makes farming profitable. He has about 230 acres, and I was informed he cleared \$2,000 from the farm last year. The fences are rails and vertical stakes, coupled by caps bored by means of machinery. This farm took the first premium of the State Agricultural Society in 1855, and a full account is given in the Transactions for that year, by which it appears that the owner's nett profits were \$1,100, after deducting full interest on the farm, taxes, store bills, and the whole amount of personal services of himself and several members of his family. The account as I have summed it up stood as follows:—

EXPENSES.—Labor, including that of hired man, of himself, wife, and that of his sons and daughters, at full price,.....		\$1,106.15
Stock bought for fattening.....		1,927.00
Interest on land, at \$106 per acre.....		1,641.50
Seed, mechanics' and store bills, and other expenditures,..		958.42
		\$5,633.07
RECEIPTS.		
Various crops, &c.,		4,181.07
Sales of stock.....		2,571.82
		6,752.89
Nett profit for the year,		\$1,119.82
		J. J. T.

PROPAGATION OF FISH.—It is said that the artificial propagation of fish has proved a complete success in Europe; the Tay breeding boxes, established in 1857, turn out 500,000 young salmon every year. The Irish breeding places have also succeeded admirably. The artificial lake at Huningue, near Basle, covering seventy acres, is doing much to re-people the exhausted rivers of France with fish.

Baron v. Liebig on the Action of Peruvian Guano.

Communicated, with Remarks, by Prof. S. W. JOHNSON, to the COUNTRY GENTLEMAN.

The mere chemical dilettante might suppose that so soon as we know the composition of a manure, we have all the needful data necessary to pronounce upon its fertilizing action. There can be no greater mistake. It is true that agricultural chemists have based calculations of the value of fertilizers on their content of ammonia, phosphoric acid, potash, &c.; but this has been done only with reference to the commercial worth—the price of the manure. Even then the emphatic assurance has been given that such estimates are only roughly approximate, and of use simply to aid the farmer in expending his money judiciously, and compelling dealers in manures to maintain a certain standard of quality in their wares.

No one has ever had grounds for supposing that the composition of a manure can serve to predict the effects that will follow or accompany its use. We know, indeed, from the general experience of agriculturists, and especially from the exact researches of Boussingault and other chemists, that ammonia, nitric acid, phosphoric acid, potash, sulphates, &c., are indispensable to the growth of plants. We know, too, that the three or four first named substances are most commonly deficient in poor or long-cropped soils, and that, as a consequence, the fertilizers that are most generally useful, must contain these ingredients. We hence assert, in a general way, that these are the most important fertilizing matters, and with the better reason, since their commercial value in the forms which are agriculturally useful, is far greater than that of the other constituents of vegetation.

When, however, we read that two manures of different origin and external character, yield on analysis the same per centages of nitrogen, (ammonia or nitric acid,) phosphoric acid, potash, &c., are we not warranted in assuming that their fertilizing action will be the same? By no means, must be the emphatic answer.

The condition or form of combinations of the elements of a manure, is of the utmost importance in determining its value and effects. Next to the presence of essential ingredients, the most important character to be regarded in a manure, is the fact of solubility. Insolubility is synonymous with barrenness in the soil, with inactivity in a manure.

The treatment of bones and natural phosphates with oil of vitriol, the fermentation of animal manures, the weathering of swamp-muck, are processes whose utility consists chiefly, if not entirely, in rendering soluble the ingredients originally present in these matters.

Where various substances are brought together in intimate contact, it happens in very many cases that remarkable changes occur. These are chiefly chemical, i. e., they have reference to the *composition* of the mixture—they depend upon the presence of *different kinds* of matter, which are naturally endowed with various and contending affinities. The *reactions*—for thus the chemist designates the chemical transformations which take place when bodies act and act again, or *re-act* on each other—have a widespread and powerful influence in determining agricultural results. The atmosphere, the soil, and the manure-heap, are not mere magazines of inert matter, but are the theaters of perpetual chemical changes.

To know accurately the kind of matter existing in a given soil or fertiliser, and to know fully the properties of each ingredient when apart from all others, is to know very little of the true characters of the mixture. The *mutual relations* of the elements of an earth or manure, the *reactions* of which they are susceptible, the conditions needful to produce or arrest this or that chemical change, these are the facts a knowledge of which constitutes an understanding of the subject. To comprehend them in their various bearings, is not merely a work of memory and casual observation, but one that requires thought and study. To increase our knowledge of these profounder

truths of agriculture is the province of a few, endowed with a far-reaching insight, that penetrates the obscurest nooks of nature, geniuses whose clear eyes illuminate the darkness they desire to explore, centres and creators of intellectual light, the track of whose thoughts is a-glow with beautiful revelations.

It is a deep pleasure to be fed from the inspiration of such minds. It is no less a satisfaction to be the almoner of their gifts to the world.

Baron Liebig, in a private communication dated the 15th June, describes the result of some new researches he has been making with reference to the character and action of Peruvian guano. He says: "The German agriculturists assert that a given weight of guano has greater fertilizing effect than an artificial mixture which contains the same quantity of phosphate of lime and of nitrogen (in the form of ammonia-salts,) and since, according to experiments which I have made, no decidedly striking influence can be ascribed to the uric acid, which is a considerable ingredient of guano, I have subjected several sorts of Peruvian guano to investigation.

If Peruvian guano be diffused in water, then thrown on a filter and immediately washed out, a dark brown solution is obtained, which by evaporation yields a large amount (8-10 per cent) of crystallized oxalate of ammonia. The mother liquor contains a small quantity of phosphates of potash and ammonia, the phosphoric acid, amounting to 2-3 per cent. When, however, the guano and water are allowed to stand in contact for several days, a totally different result is attained. If after such prolonged action the guano be washed out with water, a solution is procured in which the quantity of phosphoric is nearly twice as great as in the former case, (4-5 per cent,) and in which the amount of oxalic acid is correspondingly diminished.

These facts demonstrate that in Peruvian guano, in presence of moisture, there proceeds a gradual decomposition of the bone-phosphate of lime by means of the oxalate of ammonia, whereby oxalate of lime and phosphate of ammonia are formed.

I find that the longer the action of moisture continues, the more phosphoric acid passes from the comparatively insoluble form of bone-phosphate of lime into the readily soluble phosphate of ammonia, or so long as oxalate of ammonia remains in the guano. The exchange of acids and bases proceed rapidly at first, but afterward more slowly.

I was astonished to find that an artificial mixture of phosphate of lime with oxalate of ammonia moistened with water, undergoes scarcely any similar decomposition. On adding, however, a little sulphate of ammonia to the mixture, the change is rapidly accomplished. In guano there exists sulphate of ammonia to the extent of 3-4 per cent., and there can be no doubt that the decomposition of the phosphate of lime is brought about by the presence of this salt, *in which the phosphate itself is slightly soluble.*

When the circumstances are most favorable, the phosphates of Peruvian guano do not act as ordinary phosphates; but they operate in all respects identically with the superphosphates. The guano itself is in fact a most remarkable substance.

The solution of the phosphoric acid of guano in the soil, obviously depends to a great extent upon the weather. Heavy rains immediately following the application of guano, operate unfavorably to its good effects, because they wash out the guano and separate from the phosphate of lime the oxalate of ammonia, which serves to render its phosphoric acid soluble. Gentle and continued showers, which soak but do not leach the guano, favor its action by furnishing the conditions for transmuting its phosphates into super-phosphates.

I have discovered a very simple means of making the action of guano constant, so far as the solution of its phosphoric acid is concerned. It consists in this: one or two days before it is used, the guano is moistened with water which has been rendered slightly but decidedly sour, by addition of a little sulphuric or muriatic acid. After this

treatment the formation of phosphate of ammonia proceeds with great rapidity, and is complete in a few hours. The guano thus moistened and left to itself for the prescribed time, is found to contain, according to the amount of oxalate of ammonia originally present, from 8-11 per cent of soluble phosphoric acid (in form of phosphate of ammonia,) while all the oxalic acid has entered into insoluble combination with the lime.

This procedure may be in many cases useful and welcome to the rational agriculturist."

Analytical Laboratory of the Sheffield Scientific School,
Yale College, July, 1861.

Quantity of Cheese Per Gallon of Milk.

In the January number of the Dairy Farmer, the following rule for cheese making are given:

"1st. To ascertain how much cheese you ought to get from your milk—multiply the number of pounds of milk by eleven—point off two figures for decimals, and the product is pounds and decimals of a pound of cheese direct from the press."

No rule will answer for all dairies, as the amount of cheese made from a given quantity of milk will depend upon the richness of the milk, the time of year, and the skill in manufacture. This is shown very clearly by the following abstract made from my dairy register: In 1857 my cheese was made in a tub, with a dairy stove for heating, tin curd cutter, &c. The average yield of cheese and shrinkage for the different months was as follows:

	Cheese per gallon weighed from press.	Per cent of shrinkage in 30 days.	Cheese per gallon when cured 30 days.
May,	1.11 pounds.	.68	1.03 pounds.
June,	1.11 do.	.18	1.00 do.
July,	1.13 do.	.12	1.00 do.
August,	1.17 do.	.06	1.10 do.
September,	1.19 do.	.03	1.15 do.
October,	1.29 do.	.03	1.24 do.
November,	1.29 do.	.04	1.24 do.

In the season of 1860 my cheese was made in an improved vat, in which heat was uniformly and moderately applied, and under perfect control. A dairy knife was used for cutting the curd, and the whole process conducted with more knowledge of the art than in 1857. Circumstances prevented my keeping a record for the entire season—what record was kept shows an increased yield:

The av. yield per gal. in May, from the 10th to 31st was..... 1.22 lbs.
do. do. June for the entire month was..... 1.23 "
do. do. for 10 days in July, 1st to 11th, was. 1.21 "
do. do. for 5 days in November was..... 1.43 "

These results show the importance of skill and the best apparatus in the manufacture of cheese. The increased yield in my dairy from those causes as above shown, is over ten percent on the whole amount made. The quality improves with the quantity, as the increase is principally in the amount of oil or butter worked in. In 1857 much more whey butter was made than was required in oil-cheese. In 1860 extra attention was necessary in order to get whey butter sufficient to oil the cheese properly.

Milk weighs ten pounds to the gallon—by the above rule one gallon of milk would yield 1.10 pounds of cheese. Thus 10 lbs. by 11=110, two places pointed off for decimals make it 1.10 lbs., a result which would not be near correct except in a few cases. The true plan is for every dairyman to make his own rule—make a scale or rule by which he can tell the quantity of milk used for each cheese at a glance—record the amount on a piece of paper or book kept for the purpose—weigh his cheese when it comes from the press, and put the weight down on his record, and at the expiration of the season, or at any time, he can compute and see what yield he is getting. If he records the process of manufacture and the quantity of cheese when cured, he can ascertain what the causes are that produce particular results in cheese making.—*Dairy Farmer.*

* Beer measure.

About two thousand Mowing, or combined Reaping and Mowing Machines, of a single American Patent—all made, we believe, in this country—are now said to have been put in operation in Great Britain, with complete success.

[For the Country Gentleman and Cultivator.]

PLAN OF A CHESTER COUNTY BARN.

[The following plan is of one of the best and most complete barns that has ever been forwarded to us. It is a three story barn, and of course must be placed on a sidehill—an ascent of ten feet from the lower to the upper side will answer. The grain, hay, &c., being all drawn on the upper floor, there is scarcely any upward pitching. There are many other conveniences, which we do not point out, but they will be obvious to farmers on a deliberate examination.]

The main building, extending to A. B., fig. 2, is 60 feet by 48—corner posts 21 feet long, resting on the wall of basement, 10 feet above level of barn-yard. The ground at the north side of barn is five feet higher than at front, or south side. The overshot, from A. B. to C. D., fig. 2, is covered with a gravel roof, falling one inch to a foot, and is 24 feet wide, leaving the corner posts at C. and D. each 19 feet long. The straw house E., is 30 by 45—19 feet high at corners, the front, F., being supported by a trussed girder, resting at G. on a stone pillar. C. G. is likewise a trussed girder. The extension, A. B., fig. 3, is likewise covered with a gravel roof, falling one inch to the foot, the floor being on a level with the main floor of the barn, leaving a space underneath for putting carts, wagons, &c., out of the weather.

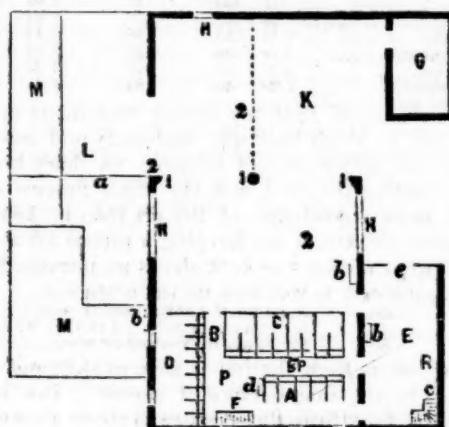


Fig. 1.

Fig. 1. Basement and yard. A. horse stables, each 5 feet wide, 14 feet deep. B. B. entry, 6 feet wide. C. close stalls for cattle or cows, 4 feet wide, 11 feet deep. D. stalls for cattle. E. yard connected with horse stables, entered at e. F. stairs to second floor, rising from F. G. pig pen, having a building over it, partly for corn for hogs, and the remainder ceiled and plastered, and furnished with perches and boxes for hens. The yard is surrounded by a wall 5 feet high, except under the building, where they are carried up to the level of the second floor, openings being left at H. H. and H. for ventilation; these can be closed in severe weather by shutters. I. I. I. pillars supporting the front girder. K. L. yard, which may be divided at a; the portion L. is covered in part by the sheds M. b. b. water troughs, supplied by a rain. c. stairs to carriage house, rising from c. d. feed chest. Under the mangers of the horse stables there are likewise feed chests of the form shown at N. fig. 4, opening by the lid o, into the entry B. These being above the floor, may be made rat and mouse proof. The funnels from the bays above, open into the entry at P. P., and into the yard at 2. 2. 2. The stables and entries are all floored with concrete, being perfectly rat proof. At R. are pins for harness.

Fig. 2.—H. carriage house. I. I. I. I. bays 22 feet wide. E. straw house, 30 by 45 feet. K. chaff room, rising 3 feet above main floor. L. L. L. L. grain bins, raised 1 foot above floor of granary. M. dark room for meat. N. abutment and wing walls for supporting embankment. O. O. base of pillars supporting front of A. B. (fig. 3.) P. P. wing walls supporting embankment to carriage house door. 2. 2. landing of stairs from basement. R. stairs to main floor. This story is 7 feet high.

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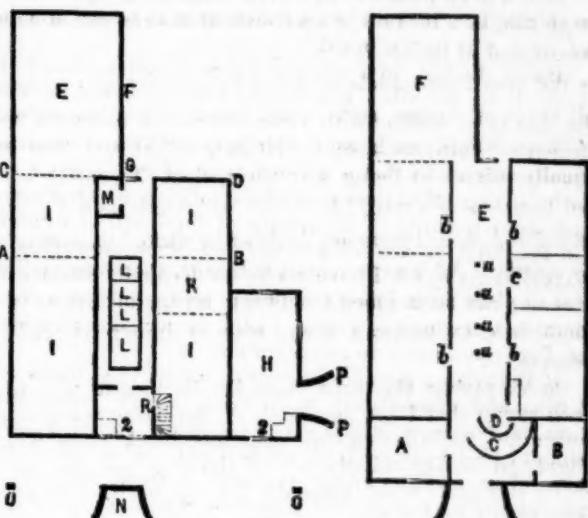


Fig. 2.

Fig. 3.

Fig. 3.—Main floor. A. B. tool rooms. C. circular railway to turn horse-power of threshing machine out of the way when not in use. The power turns on a pivot at D. E. main floor, 16 feet wide and 88 feet long, lined at sides 4½ feet high. a. a. a. a. openings to grain bins. b. b. b. doors into bays. c. floor into chaff house. F. straw house. The main floor is laid with inch pine, double thickness, the boards being so laid as to break joints.

It will be seen that nearly all the yard is covered, thus protecting the manure from the sun and rains. By the free use of gypsum, the straw and fodder is rotted as thoroughly as though it were exposed to the weather. In fact last fall the only part that was found to be imperfectly rotted, was in the uncovered part of the yard. One load made under cover is worth two exposed to sun and rain. S. ALSOR. Chester Co., Pa.

• • •
[For the Country Gentleman and Cultivator.]
BLACKBERRY WINE.

Gather when ripe, on a dry day. Put into a vessel with the head out, and a faucet fitted near the bottom; pour on them boiling water to cover them. Mash the berries with your hands, and let them stand covered till the pulp rises to the top and forms a crust in three or four days. Then draw off the fluid into another vessel, and to every gallon of liquid add four pounds of sugar; mix well, and put into a cask to ferment for eight or ten days, and throw off any remaining lees, keeping the cask well filled, particularly at the commencement. When the fermentation has ceased, bung it tight; after six to twelve months it may be drawn off and bottled.

Variation.—“To one bushel of blackberries put one gallon of water. Let the compound stand for twenty-four hours, at the end of which, mash and strain the blackberries. To every gallon of juice put three pounds of sugar; set this to ferment, which it will do in about fifteen days, more or less, according to the temperature of the weather. Bottle up and keep for use.”

C. N. BEMENT.

• • •
[For the Country Gentleman and Cultivator.]
GRAPE WINE.

Bruise the grapes, which should be quite ripe. To each gallon of grapes put a gallon of water, and let the whole remain a week without stirring. Then draw off the liquor carefully, and to each gallon add 3 lbs. white sugar. Let it ferment in a temperate situation; when fermented, stop it up tight. In the course of 5 months it will be fit to bottle.

S. M. M.

[For the Country Gentleman and Cultivator.]

No. 29—THE ARMY WORM MOTH.

MESSES. TUCKER—I have an illustration of “the pursuit of knowledge under difficulties” to present. Dr. John Bartlett of Pesotum, Champaign Co., Ill., sends us in spirits, in a tin tube, a specimen of the renowned Army worm, and of the moth which is bred from it. Now spirits is the very best vehicle in which to preserve and transmit all kinds of worms, spiders and beetles; but insects with delicate wings, such as butterflies, moths and flies are usually ruined by being wet, their wings becoming matted together in a wad, like a wet dish-cloth, and if prettily colored, their colors are liable to be altered or destroyed by spirits. An inexperienced collector, therefore, will do best to place such insects between layers of cotton in a small box, to transmit them without injury by mail or express.

On emptying the tube from Dr. Bartlett it was with deep regret that I saw this moth of the Army worm lying before me, soaked to a soft, shapeless, black mass, which might on drying wholly fail of showing me the same colors and spots which naturally belong to it. On carefully disentangling and spreading its wings, and drying it, my first step was to compare it with the broken and effaced specimens received last year from Dr. Jenkins of Maryland, mentioned in my letter to Hon. B. P. Johnson, lately published in the Co. GENT. I hereupon saw that the Army worm in Maryland last year, and that now in Illinois were undoubtedly one and the same insect. And now, by a searching look from one to the other of these soiled and imperfect specimens, I was able to gather from them certain marks by which I thought I could recognize this insect if I chanced to have any other specimens of it in my collection. Upon looking over the moths of the cut worms I find nothing like this among them. Turning then to another group, lo, here I have it!—two perfect specimens, received a few years since in a fine collection from Prof. D. S. Sheldon of Iowa College. *Laus Dei!* The riddle is now read! What for nearly a score of years I have been so anxious to obtain I now have! I know what the moth of this Army worm now is! And in the fulness of my joy hereupon, I thank you, Prof. Sheldon, and you Dr. Bartlett, and Dr. Jenkins, each and all, that you have collectively furnished me with such clues as have enabled me to make this discovery.

A short sketch of the history of this species, as it appears in our works of science, will interest the reader. Long ago, a preserved specimen of this moth found its way into the then celebrated collection of Mr. Francillon in London. Upon the breaking up and sale of that collection, this specimen passed into the possession of Mr. Haworth, who, not doubting but that it had been captured in England, described it very briefly, in the year 1810, in his *Lepidoptera Brittanica*, page 174, naming it *Noctua unipuncta* or the White Speck, by which names it has ever since been referred to by English authors and collectors, save that a new generic name, *Leucania*, replaces that of *Noctua*. It appears to have been through inadvertency that Mr. Stephens changed this name to *impuncta*, when he came to describe the species in 1829, in his *British Entomology*, *Haustellata*, vol. iii, p. 80. Later, in 1850, he refers to it under its original name, in the List of Lepidoptera in the British Museum, p. 289, it having now been ascertained that it was a North American and not a British insect.

Guenée appears to have overlooked this species of the English authors. In his valuable work on the Lepidoptera (vol. v., p. 77—Paris, 1852,) he regards it as a new species, naming it *Leucania extranea*. From him we learn that there are specimens of it in several of the Paris collections, whereby they know it to be a common insect in North America, Columbia and Brazil. He also states that a variety of it which is destitute of the white dot on the fore-wings, occurs in the East Indies, Java and Australia. I cannot but think, however, that this East India

insect should be ranked as a distinct species from ours, as it differs in such a prominent character, and is so widely separated from it geographically.

From what has now been stated, it will be seen that the original and therefore legitimate scientific name of this insect is *Leucania unipuncta*. And the “Army-worm moth” will undoubtedly be the common name by which it will be currently designated in this country, instead of the White Speck, the name given it in England.

About a dozen New-York species of this genus, *Leucania*, are known to me. They are those white and pale yellow moths or millers which are so common in our meadows and other grass lands, and which fly aside in such numbers when the scythe of the mower sweeps their coverts from them. And the “black worm,” which in this section of our Union sometimes shows the same gregarious and migratory habits as the Army worm of the Western and Southern States, I now infer to be the larva of some one of these moths.

I have scarcely sufficient space remaining to give in this article such a full and particular description of this moth as ought to accompany this announcement of its name, and will enable every one to distinguish it with certainty from other moths which resemble it.

It is very plain and unadorned in its appearance. The eye, on first glancing at it, only recognizes it as an ordinary looking moth of a tarnished yellowish drab color, inclining to russet, with a small white dot near the centre of its fore wings, and a dusky oblique streak at their tips. On coming to look at it more particularly, we find it to be rather less than an inch long to the end of its closed wings, or if these are extended it is about an inch and three quarters in width, different specimens varying somewhat in their size. Its fore wings are sprinkled with blackish atoms, and a short distance forward of their hind edge they are crossed by a row of black dots, one on each of the veins. Outside of the middle of the wing this row of dots suddenly curves forward, and from this curve a dusky streak runs to the tip of the wing, the ground color being more pale and clearer yellow along the outer side of this streak. Though the moths of some other genera usually have a similar streak, this is the only species of this genus in which this mark occurs, and hence M. Guenée names this species *extranea*, i. e. extraneous, foreign, different, as though it did not belong here. And Mr. Stephens doubts whether it correctly pertains to this genus. But a character that will appear to common persons as more conspicuous and important, is that from which Mr. Haworth names this species. Nearly in the centre of the wing is a milk-white dot, placed upon the mid-vein. This dot is surrounded more or less by a dusky cloud, and this duskeness is frequently extended forward upon the mid-vein to its base, forming a faint darker streak along the middle of the wing. Contiguous to this dot on its outer side may be discerned a roundish spot of a slightly paler yellow color than the ground, and a very short distance forward of this is a similar spot, but smaller, both these spots often showing a more tarnished centre. On the hind part of the wing the veins are marked by slender whitish lines, and between their tips on the hind edge of the wing is a row of minute black dots.

The hind wings are smoky brown, with a purplish gloss, and are nearly transparent, with the veins blackish. The fringe of both pairs of wings is pale yellowish, with a dusky band on the middle.

On the under side the wings are much more glossy and paler, opalescent whitish inwardly, and smoky gray towards their outer and hind sides, where they are also freckled with blackish atoms. The smoky color on the hind wings has, on its anterior edge, a row of short, blackish lines, one placed on each of the veins, and in line with them on the fore wings is a faint dusky band, becoming more distinct towards its outer end, or sometimes only represented by a dusky dot on the outer margin forward of the tip. The veins are whitish, and also the hind edge, on which is a row of black dots placed between the tips of the veins. The hind wings have also a blackish crescent-shaped spot a little forward of their centre.

The abdomen or hind body is smoky gray above, and on its under side ash grey, freckled with black scales, and usually showing a row of black dots along each side.

Though these moths are subject to some variety, whoever has one of them in his hands will find it to coincide so exactly with most of the particulars stated in the above description, that he will be fully assured it is this insect.

Salem, N. Y., July, 1861.

ASA FITCH.

P. S., July 17th.—A fine specimen of this moth reaches me to-day from Mr. Emery, editor of the Prairie Farmer. It is a male, and indicates this sex to be smaller, measuring but little over an inch and a half across its spread wings. It is also of a darker or more smoky gray color, but does not appear to differ otherwise from the description above given.

A. F.

[For the Country Gentleman and Cultivator.]

BLACKBERRY WINE.

EDS. CO. GENT.—I notice some of your subscribers ask for receipts for making wines. I send the following for blackberry, which I have found to make a superior article.

RECEIPT FOR BLACKBERRY WINE.

Take 1 bushel ripe blackberries,
15 lbs. best white sugar,
2 gallons water,
10 oz. raisins.

This will make about 5 gallons wine.

MANNER OF MAKING.

Take the 1 bushel blackberries, bruise well in a tub, and pour over them 2 gallons boiling water; let stand till cool, and then strain or press.

To each gallon of juice thus obtained, add 3 lbs. best white sugar. When the sugar is all dissolved, put the liquid in a cask or other vessel that will just hold it, and let it stand in a moderately cool place without corking, to ferment. The fermentation will throw off the foreign matter from the liquid by keeping the cask or vessel full, adding berry juice or water as the quantity is diminished by fermentation.

When the fermentation has nearly ceased, (which is known by it ceasing to make any noise or but little effervescing,) then cork tightly, and let stand without being disturbed in any way until November or December. Then rack off the liquid carefully and throw away the dregs or lees, wash the cask clean, and return the liquid, and add 2 ounces of mashed raisins to each gallon; cork tightly, and let stand a month or more, when you will have a wine of good drinking quality.

Brick Meeting House, Md.

C. H. HAINES.

[For the Country Gentleman and Cultivator.]

CURRENT WINE THAT WILL KEEP.

MESSRS. EDITORS—In the last No. of the 17th vol. of your sterling paper, I notice a call for a recipe for wine from the currant, the elderberry, and the blackberry and grape, "that will keep sound and good."

I have made wine from the red Dutch currant for many years past. I have barrels of it now on hand, which is twelve and thirteen years old. Perhaps that is old enough to satisfy the inquirer that it will "keep sound and good." Age improves its richness and flavor. My method of making it is very simple, easy, and speedy—provided a little machinery is prepared for mashing the berries and pressing out the juice.

RECIPE.—Take 18 gallons of well ripened Red Dutch currants on the stem, run them through the mill so as to mash every berry. Add 18 gallons pure soft water; stir well so as dissolve the mucilage of the currant. Press dry through a strong woolen bag. Now add 3 to 4 lbs. of common brown cane sugar to the gallon of this liquor; put in a new oak barrel loosely bunged; let it stand 6 to 8 weeks, then "rack off" carefully, so as not to agitate the lees; thoroughly cleanse the barrel and return the liquor; bung tight and place the barrel, faucet in, where it will not be disturbed while the wine is on draught. In three months it will be palatable wine, and will improve by age for years to come.

The most difficult and tedious part of the process of making wine from the currant, without machinery adapted to the work, is the mashing of the berries. The skin of every berry must be broken before consigned to the press, for no

ordinary press has power to do it, in mass. To remedy this difficulty I constructed a mill, simple but effective and speedy. I made two fluted rollers to match, of hard seasoned wood, 8 or 9 inches in diameter, 14 inches long, 1½ inch flutes. Upon the shaft of one of these rollers I affixed a crank. These cylinders were placed together horizontally upon a frame two feet high and four feet long, to allow a tub to set underneath; over these cylinders, and embracing the upper half of them I place a "hopper" that will hold a bushel or more, nicely fitted to the ends and flutes of the cylinders, which are adjusted by keys driven perpendicular against the journals of one of the rollers. When all is properly arranged the smallest berry cannot escape being mashed.

With this little simple mill I could, with one hand, mash berries enough for a barrel of wine in about one minute.

Any ordinary press of sufficient power will answer the purpose.

The best press box is made of straight staves, iron bound, bored full of small holes; in this, place a new gunny bag, and in the gunny the woolen strainer and you are prepared to apply any amount of pressure required.

As I am preparing a vineyard of the Catawba, Delaware, Concord and other grapes, I shall look with much interest for the recipe for grape wine called for by your correspondent.

Alton, Ill., June 30, 1861.

ELIAS HIBBARD.

[For the Country Gentleman and Cultivator.]

CRANBERRIES.

MESSRS. EDITORS—I have an acre or so of low ground which was formerly covered with water six months in the year, but of late has been drained so as to carry off the surface water; but the drain is not low enough to make the ground dry. The soil, from six to twelve inches, is black muck, with an intermixture of sandy loam, and a hard clayey subsoil through which the water cannot pass. By closing the drain the ground can be flooded in the wet season.

Can you or any of your subscribers, inform me—1st. Whether the ground above described can be profitably planted with cranberries? 2d. Where can the right kind of plants be obtained, and their cost? 3d. How far apart should the plants be set? 4th. What is the best time of year for setting? 5th. Should the ground be plowed, and if so, when and how long?

C. P.

Jefferson Co., N. Y.

1. The soil, judging from the description, would be well adapted to cranberry raising; but if a coating of two or three inches of beach sand, or if this cannot be obtained, of any clean, coarse sand, could be applied to the surface of the muck, after the latter has been well mellowed and rendered clean, it would doubtless be a great improvement in promoting the successful growth of the plants, as well as facilitating clean culture. 2. The plants may be obtained of Dr. Halsey, of Victory, Cayuga co., but we cannot name the cost. 3. The distance apart depends on the supply of plants. If the plantation is small and the plants abundant, they may be set a foot or a foot and a half apart; under other circumstances two or three feet will do. The more thickly they are set, the sooner they will mat the whole surface, and the cost will be less in keeping them clear of weeds. They should be far enough asunder in any case to allow clean cultivation till the plants are well under way. By procuring enough plants for a part of the land, the increase in a few years will be enough to plant the rest. 4. If the land is dry enough and in good order, the plants will be best set in spring; but otherwise they may be set in autumn and kept flooded through winter, to keep them from being thrown out by frost; the water to be let off in spring. On a peaty soil, it will be difficult to prevent throwing out, except by flooding. A coating of sand will greatly lessen this liability. Cultivators differ as to the proper time to flood established plantations, and we are not prepared to decide the question.



[For the Cultivator and Country Gentleman.]
CHICKEN COOPS.

"Well, what about chicken coops?" We will tell you, kind reader. If you wish to be successful in rearing chickens, particularly early ones, it is very important and necessary that you should provide warm, dry, airy and comfortable abodes for them. A very great error heretofore has been, in confining the hen with her little family, in much too cramped and confined quarters, to the no small inconvenience to the mother, and great danger to the chicks. In nine cases out of ten, the coops are entirely too contracted, hot and uncomfortable. Draw a comparison between a hen and her brood confined in a small, low, contracted room, hardly sufficient for her to turn round, much less to carefully brood her young, and a large airy apartment, well protected from heat, wet or cold, and sufficient space for exercise.

We have used most contrivances for this purpose, but never have found any one to answer our purpose as well as those we are about to describe, and figured at the head of this article.

For very early broods, we prefer one with sash and lights, for the reason that by placing it facing the early sun, affords warmth to the inmates so congenial to their nature. Two or three hours sunshine is worth a week of codling and swaddling by the kitchen fire, and rarely does a young chicken think the sun's rays too powerful for them. They can bear and require a great degree of heat. We have seen them, in the cold frosty month of January, when allowed the privilege of the kitchen, to approach near the range, and stretch themselves on their sides in front of the ash-door or grate, with apparent gratification and comfort. The same may be often seen in one of these glazed coops; showing most conclusive evidence of their enjoyment, in the warm rays of old Sol.

We have adopted the following for our very early broods, which we have found to answer admirably: A large dry goods box was procured, the top and one side removed. We then sawed a strip from the top or side pieces $2\frac{1}{2}$ inches wide, and nailed it across the front, from end to end at the top. Then we sawed another strip 3 inches wide and nailed it across below to within 3 inches of the bottom. Another strip of the same width to be secured to the one above, with leather hinges, forming a door 3 inches wide, the whole length of the front, hung to the strip above, opening upwards, answering the purpose of egress and ingress for the little chicks, as well as for the purpose of cleaning the floor. Then procure a sash of suitable size, and screw on in front, covering the open space. In one end, or in the back, as best suits your convenience, saw a hole for a door 6 inches wide, and 7 inches high, which may either slide or be hung with hinges. The body is now finished. For the ends, procure $1\frac{1}{2}$ inch pine plank, match them and mark out the gables, giving them any pitch you deem best. Nail a two inch strip across from front

to rear on the inside of each end, so that when the gable is set on the edge of the box, it will be flush on the outside; nail the gable to the cross piece, and the other end the same way. The roof may be made of pine boards and battened. We sometimes use the tops or sides for that purpose, and batte with lath planed. Let the roof project 3 or 4 inches at the eves and ends. Verge boards may be put on or not, just as fancy dictates. Now saw a round hole in each gable near the top, 7 or 8 inches in diameter; put a coarse wire grating on the inside, or lattice with very small strips $\frac{1}{4}$ inch square; (this should have been done before the roof was put on); retain the round pieces to close the holes when necessary to exclude the cold and secure the warmth. When the grated windows above, and the long narrow door below are open, a free circulation of fresh air is admitted, which is so essential to their health. So soon as the day wanes in spring, and while the temperature is low, we cause the doors to be closed for the night, where they remain warm and secure from skunks, rats and weasels, till the next morning, when a similar move takes place.

The interior of most chicken abodes is not always so entirely in view as to render it at once perceptible, whenever our poultry woman or man (we incline to the former functionary,) has the same idea of the importance of cleanliness and purifying as we ourselves may think necessary—the health of our chickens will soon satisfy us that they appreciate the care.

To render this coop more complete for summer, we remove the sash, and substitute a frame with fine lattice. This affords the inmates plenty of air, and still protects them from vermin.

In order to keep the chickens in good health, so confined, it is essential that the greatest precautions should be taken to ensure cleanliness in all departments; therefore the coops should be cleaned out daily, and sand or fine gravel put in, which prevents any portion of filth adhering to the floor. Fresh water, in clean vessels, should be placed before them morning and afternoon. Impure water may be put down as a main cause of pretty much all the diseases poultry are subject to: diarrhea, gapes, and other maladies.

But do not let our readers be frightened by the minuteness of these directions, for at a later season the chickens may be left much more to themselves; only let them remember that if in possession of good fowls, and they desire to have healthy chickens at an early period of the year, their chances of success will be infinitely increased by following our advice.

If the coops are placed contiguous to each other, and more particularly where other fowls are allowed to range, we recommend a small court, in which both the hen and chickens are together, with the coop to retreat to in bad weather. The court may be made of lath, six feet long, two feet high, and the width of a lath; the top also latticed. This would prevent the chickens from straying to other coops, and their danger from hawks, cats, rats, or even the ill-temper and spitefulness of some of her own race, which often terminates in death to the truant. It would also protect them when feeding.

Chickens hatched in June and July we merely keep in the coop for ten or twelve days; after which we give them their liberty, and have found them to thrive far better than when confined either in courts or coops.

The architectural style of these coops may be varied according to fancy; embracing the Roman, the Italian, the Turkish, the Russian, the French, the Chinese, and the American Log Cabin.

C. N. BEMENT

Lemon Beer.

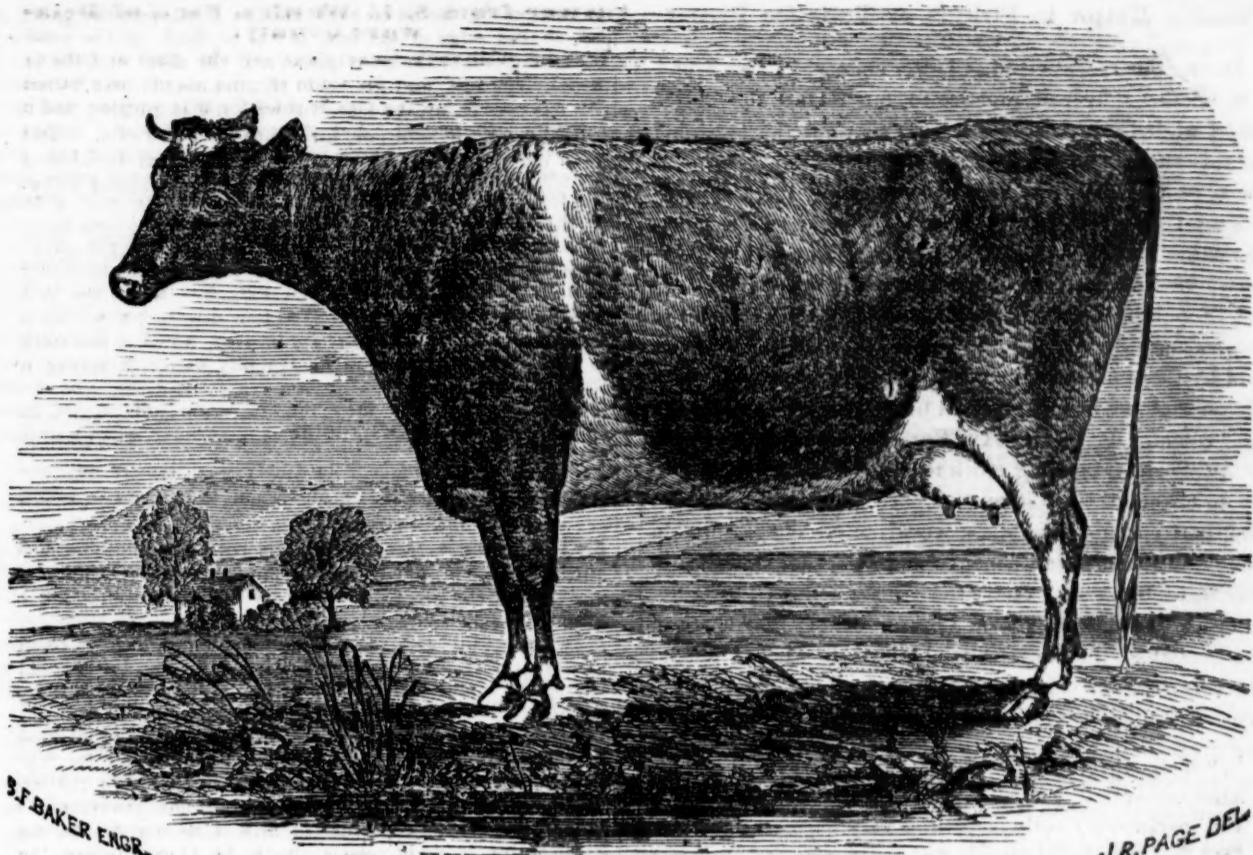
Take two gallons water, two ounces ginger, two lemons and boil them together; when luke-warm pour the whole on a pound and a half of loaf sugar, two ounces cream tartar, add four tablespoonfuls of yeast, and let them work together for six hours. Then strain and bottle.

C. T. A.

Loaf Cake.

Four pounds of flour, two pounds of sugar, one and a half pounds of butter, one quart of new milk, one pint of yeast, one pound of raisins, four eggs. Take the milk, yeast, and a part of the flour, and make a sponge of it and let it stand over night; in the morning mix in the rest of the flour, and let it raise; after it has risen mix in the shortening and seasoning and work it well. After it has risen, put it in pans and bake it.

C. T. A.



ALDERNEY COW "JURA,"

Calved May, 1857—Imported by and the property of R. L. MAITLAND, Esq., Newport, R. I.

[For the Country Gentleman and Cultivator.]

A Novel Bee Freak—Invading Swarms.

On the 15th of July I had been out on the prairies a few miles, returning home about 3 o'clock p. m. The first thing I heard was that "two strange swarms of bees had come in a southerly direction and invaded a stock in one of our old hives. This seemed strange, but upon inquiry it appeared that the hives had been closely watched, being all in sight of the summer cooking apartment, and no swarm had left either of the only two old hives I have, and none was expected, because both had thrown off large swarms before. I had no alternative therefore but to acquiesce in the conclusion that one or two swarms of strange bees had actually come from some other place and "invaded" the old hive, which was pretty full before, and which, of course, must result in great commotion, and probably a battle of the queens during the evening and night succeeding.

On the morning of the 16th I had just returned from post-office, and sending a small boy home with the horse, commenced mowing, when in about ten minutes our oldest girl returned on the horse—I was half a mile from the house—to say that one swarm of the "invading" bees had just come out and were alighting in a tree near by. It was about half past eight, a. m. I rode home and hived the early moving swarm, about half a peck, quickly. About 4 p. m. another cluster came through the air, when I again left mowing and added these, about a quart, to the morning swarm. As I could not see a queen on the cloth used for the latter to move upon into the hive, I think the second cluster may have been made up of "stragglers" from the 8 o'clock swarm. They stay in the hive, and appear to be going to work.

As I never heard of bees swarming at 8 a. m. in a natural way, and as the morning was no more than comfortably warm. I incline to believe this swarm was one that had lost its home, and was directed or guided by some bees that had been with ours before; and their leaving the hive so *early the next day*, makes towards the inference that they had been driven out by a very natural war of "resistance" within, where, from the crowded condition, any "engagement" must have been in "close quarters." The strange bees rushed into the hives when they first came in great haste, and were seen coming a distance of twenty rods before they alighted. There

can be little doubt therefore as to their being invaders from a distance, though, of course, they neither designed nor inflicted devastation, as invaders usually do. And this view is further supported by the old hive appearing as full now as before the "late unusual commotions" there, whence a large natural swarm had left two weeks before. The several hives were closely observed; no swarming noise as made when bees leave the hive had been made, nor other sign of swarming noticed. The second swarm has not yet emerged; the queen must have been killed therefore. But even if a swarm could have left so suddenly as not to be perceived, I suppose two swarms would not leave and return into one and the same hive the same day. Not having had much experience with bees, though mine do well this season, I have stated these facts that others who may feel interested may, when so disposed, supply further information in illustration or explanation of the fact of this "freak of bee nature."

Wisconsin, July 17, 1861.

C.

[For the Country Gentleman and Cultivator.]

ELDERBERRY WINE.

To every quart of berries add 1 quart of water; boil half an hour; run the liquor and break the berries through a hair sieve; then to every quart of juice add $\frac{3}{4}$ of a lb of sugar; boil again $\frac{1}{2}$ of an hour, with Jamaica peppers, ginger, and a few cloves; when sufficiently cool, pour into a barrel a cup of yeast and a piece of toast to assist the fermentation—(to be kept in a warm place.) When it ceases to hiss, add 1 qt of brandy to 8 gallons of the liquor; then close the barrel perfectly air tight, and keep in a cool place for six months when it will be fit to bottle.

S. M. H.

PEACH-LEAF YEAST.—A correspondent of the Prairie Farmer says—"Please inform your friends at the "Tea Table," that peach leaves used in the same way as hops, make excellent yeast. They may be used fresh from the tree during summer, but the winter's supply should be picked before frost comes, and dried." It may be worthy of inquiry whether there is a possibility that the minute quantity of prussic acid in the leaves can exert any deleterious effect?

Packing Butter in Firkins or Tubs for Preservation.

During our recent visit in Chester county, Pa., we found it to be the universal practice to market all the butter made, while fresh—sending or carrying it into Philadelphia for this purpose, regularly once or twice a week through the season. Thus, through the summer months, the farmer's most valuable time is much of it consumed in going to market; there is a glut of first-rate butter offered at that period of the year, and when winter comes there is not enough preserved or manufactured to fully supply the *home demand* even, and the firkin butter of this State is sold by the tradesmen in West Chester, in the midst of a region that ought to supply its own wants at least, all the year round. D. B. HINMAN, Esq., President of the County Ag. Society, is doing much to persuade the dairy farmers to change their system and pack down more butter; and, partly at his suggestion, we wrote on our return to one or two friends in Chenango and Delaware counties, in this State, to obtain exactly the process followed by them, in order that our friends in Chester county may share in the benefit of the experience obtained in what is among the *very best* dairying regions either in this State or country. We may, perhaps, be excused, however, for expressing great doubts whether there will be enough who make and succeed in the endeavor there, *on account of our publishing these directions*, to compete injuriously with the long established trade of our own dairy counties.

The following response to our inquiries was kindly furnished by JOHN SHATTUCK, Esq., of Chenango Co.:

EDITORS COUNTRY GENTLEMAN—I cheerfully comply with your request in giving such information in relation to packing and keeping butter through the summer season as I am competent to do, giving you the method that has proved the most successful with us :

1. In the first place you ask in regard to *churning*; we use dog power, having the *temperature* in warm weather about 55 deg. Fah., which gives the butter a *good solid consistency*.

2. When the butter comes, it is removed and washed with cold ice-water until the *buttermilk is all removed*.

3. It is then salted—about *one ounce of salt to a pound of butter*—worked in thoroughly, and set in a cool place for twenty-four hours, when it is worked just sufficient to remove *all the buttermilk*.

4. It is then packed in the firkin, and covered tight, so as to *exclude the air*.

5. When the firkin is filled, then you put a cloth over the butter, put on a good covering of salt, and then pour on water, which makes a brine. We keep it thus covered until it goes to market, (it being the only way we could ever keep a dairy perfectly sweet through the season.)

These rules *strictly observed*, I will warrant never to fail, if the butter is properly made.

We use good white oak firkins. *Manner of preparing them before putting in the butter*—fill them with cold water to soak three or four days; a handful of salt thrown in will make them all the better. When we get ready to put the butter in the firkin, we rub the inside all over thoroughly with salt, which forms a brine between the firkin and butter.

All the *salt* used about butter in any form should be good *dairy salt*, as there is more or less lime in other salt, which renders it unfit for butter.

Good soft water is also essential, as hard limey water is very objectionable.

If what I have written in this short letter is not sufficiently comprehensive, let me know, and I will give you a more comprehensive and detailed statement with regard to any particulars that you may wish to inquire about, as it always affords me pleasure to communicate to others anything in the line of agricultural pursuits that may be advantageous to them.

JOHN SHATTUCK.

Answer from S. L. Wattles, Esq., of Delaware County.

EDITORS COUNTRY GENTLEMAN—I am glad to comply with your request, and give you the details of the method which has proved most successful with me in putting down butter, during the summer, for winter use and sale. And here I may say that my method is identical in almost every particular with that of all the most successful dairy-men of this town.

1. The cows are milked regularly at the same hour morning and evening. The milk is not allowed to stand long in the milk-pails after milking, but is immediately carried to the milk-room and strained into tin pans. *Only about three quarts are put in a pan*, so that the milk may never stand more than two inches deep, often less in very hot weather.

2. The milk-room is above ground and in the summer time kept as cool as possible and well aired. The milk is left to stand in the pans from thirty to thirty-six hours—*never more than thirty-six*, and then the cream is taken off.

3. The cream is put in large tin pails with covers, and if the weather is warm the cream pails are set in the cellar to cool the cream.

4. The intention is, *always to skim the milk before it gets much sour*. Cream rises in pans set as above stated very quickly, and the sooner it is taken off after it is risen the better, both for the quality and quantity of the butter made from it. *Cream will all rise, if the milk is very shallow in the pans*, even in the hottest weather. And if it is taken off soon enough it will all be saved—while if the milk stands deep in the pans it will sour before much of the cream rises, or if allowed to stand too long before skimming, the cream is wasted and injured in quality.

5. Our women have a way of taking off the cream without the use of the skimmer. They use a knife only. They run the knife around the milk in the pan to separate the cream from the sides of the pan. Then they set the bottom of the milk-pan at the edge, on the rim of the cream pan, then with the left hand elevate one side of the milk pan so that the cream with the help of the knife in the right hand will run off into the cream pan. After a little practice it is done very quickly and saves both time and cream.

6. The churning is performed every day. The cream taken off one day is churned the next morning. The common crank churn is used and is worked by dog power. This crank churn is used because it is easiest attached to, and worked by dog power, and because it is more convenient to wash the butter in than the barrel or dash churn. The churning is done very slowly, requiring from two to three hours. The cream having been in the cellar all night, is always cool enough to commence the churning, but if the weather is very hot, and the temperature of the cream is likely to get too high while churning, cold water is put into the churn to keep it down—as very good butter cannot be made when the cream is warmer than 65 deg. when the butter is coming.

7. After the butter has come, the buttermilk is immediately drawn off through a hole in the end of the churn, and then about a half a pail of cold water is thrown into the churn on the butter. The crank of the churn is then turned around a few times and the water drawn off. After that a whole pail of water or more is thrown on the butter in the churn, and the crank again turned quickly a few times, and the water again drawn off, bringing with it every particle of buttermilk. The churn dasher is then taken out, and the remaining water is pressed out of the butter with a ladle.

8. The butter is then taken from the churn and put in the butter bowl and weighed, and it is then salted with one ounce of Ashton salt to a pound of butter. The salt is well worked through the butter with a ladle, and the butter is set in the cellar and stands about twenty-four hours for the salt to dissolve, when it is again carefully worked, and the brine pressed out, and then immediately packed in the firkin.

9. The firkins are prepared for use by filling them with

water, and letting them soak eight or ten days. They are then scalded with hot water and rinsed, and after that the inside of the firkin is rubbed with a lump of salt, and it is ready for use, and filled with butter within an inch of the top. A cloth is then put on the butter and covered with salt half an inch deep, and then some brine poured on. The firkin is then covered up with a flat stone. Nothing more is done to them or the butter, except an occasional renewal of the brine when it dries away.

Dairies made in this way have frequently been kept at home in the cellar, as late as March of the following season, before they were sold, and have stood all the tests of time and different markets and climates.

We pack our butter for family use through the following winter and spring, early in the fall while the grass is good. It often lasts until the next June, and is always preferred to fresh butter made on hay in the winter, or on hay and grass together, in the spring. S. L. WATTLES.

Proper Temperature for Churning.

The important influence of a proper TEMPERATURE FOR CHURNING, is a matter no longer overlooked by any good dairymen, and it will be seen in the letters elsewhere published from Messrs. John Shattuck and S. L. Wattles, that both gentlemen specify the particular degree of temperature preferred—Mr. S. putting it at “about 55 deg. in warm weather,” and Mr. W. adding that “very good butter cannot be made if the cream is warmer than 65 deg. when the butter is coming.” Since these articles were in type, the Paris Journal of Practical Agriculture for July 5, has come to hand, and we find it to contain an interesting report just submitted to the Imperial Ag. Society, by Mons. J. A. BARRAL, giving an account of experiments lately conducted by him with regard to the effect of temperature both upon the time occupied in churning, and upon the quantity of butter produced.

Mons. Barral employed two churns for these experiments—one of them what is known in Paris as the “Swedish Vertical churn,” and the other a horizontal churn made by M. Girard :—

1. In the vertical churn, 6 litres, (10½ pints) of milk, at the temperature of 68 deg. Fah., after 5 minutes churning, gave 239 grams (8.44 ounces) of butter, or the butter produced was 3.99 per cent. of the milk churned.

2. In the horizontal churn, 4 litres (7 pints) of milk, also at 68 degrees Fah., gave 166½ grams (5.88 ounces) of butter, or 4.16 per cent. of the milk. In both cases about 5 minutes additional time was taken to gather and wash the butter.

3. In the horizontal churn the same quantity of milk, 7 pints, was again churned, but this time at a temperature of 53½ deg. Fah. After three-quarters of an hour there was no result apparent, but the temperature of the milk had been raised to 64½ deg., either from the warmth of the apartment, or the contact of the operator and friction within the churn. At the end of an hour, butter was formed in minute grains, like a sort of lather, and by putting hot water into the aperture around the churn, the temperature was raised to 70 deg., and the butter gathered after 9 minutes more churning. The quantity proved to be 5½ ounces of butter, or 3.71 per cent. of the milk.

4. The same quantity of milk, again churned in the same churn, at a temperature of 86 deg. Fah., formed butter in two minutes, but after churning much longer, only 3.90 ounces of butter could be got, or 2.76 per cent. of the milk.

The facts derived from these experiments are—1. That the time of churning varies with the temperature, it taking ten times longer to get butter at 54 deg. than at 68 deg., and that at 86 deg. this time is less than half than at 68 deg. 2. That if the temperature is too high, the quantity of butter obtained is greatly lessened. Mons. Barral thinks the best temperature to be from 64 deg. to 68 deg. Fahrenheit.

The next step taken was to analyse a sample of the same milk tried in the churns. This showed its composition to be:

Water,	87.630
Butter,	4.679
Caseine, sugar of milk, &c.	7.077
Ash,	0.644
	100.000

So that of the whole proportion of butter really contained in the milk, *there was lost*, in one of the two experiments at 68°, 14.7 per cent., and in the other, 11.1 per cent.; when the temperature was reduced to 53½°, this loss was increased to 20.8 per cent., and the time occupied was ten-fold greater; and, finally, at 86°, while the process was very greatly accelerated, the loss was still farther increased to 41.1 per cent., but little more than one-half the butter being made which the milk really contained.

The trial was made, it should added, the 24th of last April, with milk drawn from the cow the preceding evening.

Mons. Barral also made two experiments in the churning of cream, with the same horizontal churn. In the first, 7 pints of cream at a temperature of 61°, produced in 11 minutes, 1 lb. 5½ oz. of butter, or 15.4 per cent. of the cream churned. In the second, 7 pints was again churned, being this time a mixture of 2 pints of cream with 5 pints of water—the whole at a temperature of 66°; in 5 minutes, 6½ ounces of butter was produced equal to 15 per cent. of the cream churned. The composition of this cream was:

Water,	79.52
Butter,	15.56
Caseine, sugar, &c.	4.18
Ash,63
	100.00

The result of these trials, compared with the above analysis, shows that in churning the cream, in two experiments, 98.3 and 95.8 per cent. of all the butter it was shown to contain by the analysis, were obtained in reality from the churn—being a loss of only 1.7 per cent. in the one case and 4.2 per cent. in the other—amounts *very greatly less than those lost when the milk was churned instead of the cream*. “Repeated trials,” says Mons. Barral, “have demonstrated that the temperature at which we can get the most butter, and that in the least time, in churning the cream alone, is from 14 to 16 deg. centigrade,” (from 57 to 61 deg. Fah.)

We have devoted this extended space to the foregoing experiments not only on account of the light they throw upon the proper temperature at which churning should be done, but because they demonstrate how much of the butter which analysis finds in the milk, we fail to extract from it by the ordinary process of churning. This loss is very greatly reduced when the cream alone is churned, if the above experiments are to be taken as conclusive; but as no analysis is added of the milk after the cream was skimmed, we cannot tell whether all the butter it contained was taken off with the cream, or whether there is some loss here which is not shown in the above figures.

[For the Country Gentleman and Cultivator.]

FATTENING SPRING PIGS.

MESSRS. LUTHER TUCKER & SON—In a late no. of THE CULTIVATOR, page 181, I notice an article by J. SIBLEY, on Fattening of Spring Pigs.

I conclude his pigs must have been at least one month old when he purchased them—he fed them six months, making them at least seven months old, when they were killed and weighed 206 lbs. each. To those who breed Leicesters or Suffolks, this may be considered a great yield.

I breed the White Chester County Pigs, and last March I killed three pigs at four months old—the three weighed 618 lbs. I do not know how much they ate, but it is not probable they eat any more in four months than friend Sibley's did in seven months.

D. B. HINMAN.

Highfield Farm, Chester Co., Pa.

Seasonable Suggestion---Pulverizing Manure.

The first requisite in the application of manure is its thorough pulverization. It is impossible if in lumps or masses to intermix it properly with the soil, and unless intermixed it cannot be of much value. Any one may perceive what would be the difference in the effect of two loads of manure on land, one as fine as sawdust and diffused through the soil, and the other in lumps as large as one's head. One reason that the sediment deposited by irrigation is so beneficial, is the fineness of the matter; and the efficiency of liquid manuring is owing to the fine diffusion of the fertilizing materials through the soil. Manuring in autumn by spreading on the surface operates in the same way—the soluble parts being washed out and finely intermingled with the soil.

Many farmers are in the practice of applying their manure to the wheat crop early in autumn, and when the manure is in right condition, it is doubtless an excellent one. On heavy soils especially it operates to great advantage if spread over the surface after the plowing is completed, and harrowed in, or it may be spread after the wheat is drilled in, and broken and intermixed with the top soil by means of a fine tooth harrow. This operates beneficially in several ways: First, it enriches the surface, near which the roots of young wheat plants extend; secondly, it protects the surface in some measure from severe freezing, and tends to prevent winter killing; thirdly, it keeps the surface moist, and facilitates the growth of the grass seed in autumn, and the catching and growth of clover in spring. In this case the timothy seed should be sown two weeks after the wheat, to prevent its growing too strongly and interfering with the wheat crop.

In addition to the pulverization effected by harrowing, it would probably be an economical operation to fork over all manure, especially if long or fibrous, before drawing out and spreading, shaking all parts well to pieces, as in preparing it for a hot-bed. The effective value of a load of manure is reckoned generally at one dollar at least, and frequently as high as three or four dollars. Its efficiency would probably be doubled by reducing it to powder, so as to become finely mixed with the soil in harrowing. As a single hand would thus pulverize several loads a day, the profit of the operation is obvious.

In this connection the value of harrowing manure well with the soil before turning it under by the plow, should not be overlooked, but such harrowing never omitted, for whatever purpose.

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[For the Country Gentleman and Cultivator.]

THE WIRE WORM.

MESSRS. EDITORS—In your issue of July 4, present vol., Mr. S. T. Kelsey says: "Wheat is in many places considerably injured by the wire worms," and that "these wire worms are getting to be a terrible pest, and we would like to learn of some feasible mode of exterminating them." What is here said of Cattaraugus county is mainly true of Orleans, and I believe more or less true in regard to the rest of Western New-York. Indeed, I should judge from the little seen in the agricultural papers in regard to this pest, that if not confined to Western New-York, it is at least a great deal more troublesome here than elsewhere. In this County, and more particularly in this section, there are a good many fields of winter wheat and corn more or less injured every year; these crops being generally more preyed upon than any others, though spring wheat, barley and oats are more or less injured.

The principal reason wheat and corn are injured the most, is that there is more of these crops grown, and that they are generally the first crops raised on newly broken up sod ground. I often hear of these crops being damaged to the amount of from \$200 to \$300 on a farm of 100 acres. A near neighbor told me he lost more than \$300 by them on his (100 acre) farm last year; and I hear a good deal of complaint from him, and many others this season. Indeed, I think I may safely say, that within the circle of a few miles, where I am more particularly acquainted, the damage caused by wire worms amounts to thousands every year. While judging from such data as I have come across, I think the loss in this part of the State must amount to a very large sum each year.

As to any "feasible mode of exterminating them," I have yet to learn of any that can be called effectual. The most common course is, to sow land known to be infested with wire worms to buckwheat, which it is said will kill them out; and there is probably no doubt, that sowing buckwheat two or three years will run them out, if it don't kill them. The opinion that buckwheat will kill them, has probably arisen from the fact, that they will not eat much of it. And that by keeping the land in that grain until they have run their course and gone, there being no suitable place for the deposit of the eggs, of course another supply of the pest is not provided for.

But this remedy is a poor one at the best, as it is seldom or never tried until one crop of some more desirable grain has been partially or wholly destroyed; and then necessitates the sowing of rich land—as they are almost always found in rich land, and generally in fields that have lain a considerable time in grass—to an inferior, and in this section, uncertain crop, for at least two years; and then leaves the land more or less seeded to it, to the injury of succeeding crops. All of which, of course, must bring a very considerable loss on the farmer.

As to other "modes," I have never seen any tried that could be relied on. Salt has been recommended; but I have seen corn badly injured where a handful had been applied to each hill, and have pulled up stalks that were surrounded with salt at the top of the ground, and found the worms boring into them, some having penetrated so far as to remain in the stalk after it was pulled up.

Another remedy that has been strongly recommended, is fall plowing. It has been said, plow late in the fall when the worms not having a chance to return back deep into the ground will be frozen to death the succeeding winter. This has frequently failed—one instance of which was a ten acre lot adjoining my land, that was plowed very late, and if I am not mistaken, finished in December, and freezing up very soon after. The next spring it was planted to corn, and the whole destroyed, except about one acre in one corner that run up on a sandy and gravelly ridge. This lot had lain in grass six years. The cultivated grasses to which it had been seeded, having run out, and been followed by June and wire grass, it was undoubtedly in a very favorable condition for the wire worm. It was also the kind of land, a rich, loose, dark colored soil, containing considerable vegetable matter, which is most liable to be infested with them.

Other remedies have been recommended and tried with no better success; and we have yet to learn of "some feasible mode of exterminating them," which can be relied on.

But while it is extremely difficult to kill them out, when they are in the land, until they "have had their day," yet I believe they may generally be prevented from infesting our farmers, in such numbers as to do a great deal of damage. The only way to do this, so far as I know, is to break up and seed down often, never allowing land that has been infested with them, or that which from the nature of the soil may be supposed to be well adapted for them to work in, to lay to grass longer than one or two years; and to seed principally, or wholly to clover. And where land is badly infested, I am strongly inclined to believe, that good crops of clover may be, and have been raised, as I know of no reason why they would be more likely to trouble clover, than they would be to destroy

buckwheat. By seeding to clover, and plowing up often, together with thorough cultivation, the natural pabulum of the wire worm, that is the June, and wire grasses, will not get possession of the land to a sufficient degree to allow of the soil's being badly infested with them. Hence, we very seldom see a field badly troubled with them, that has not lain to grass some years, a considerable part of which was June and wire grass, or land lying near such a field. *R. Orleans Co., N. Y.*

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Agricultural Items from the European Continent.

PREPARED BY THE EDITORS OF THE COUNTRY GENTLEMAN.

There are 600 Agricultural Associations in the French Empire, distributing about \$240,000 in the aggregate in premiums of various kinds. — — — Complaint having been made that the French Ag. Exhibitions were only "got up," as we should say, for the benefit of land-holders and other wealthy men, Mons. BARRAL relates that he was present at the distribution of about 70 prizes at the late Show at Metz; "there were not ten persons who came for them *who wore coats*—more than 60 being peasants, vine-tenders, herdsmen, laborers, &c., in blouses and thick shoes, with their iron-shod sticks, and very proud of their success." — — — That America, which has heretofore only sold *salt meat* to Europe, should have sent "real Durhams" to England, is spoken of in the Paris *Journal d'Agriculture Pratique* as proving *combien l'agriculture yankee marche vite dans le progres*—which may be freely translated to signify that the forward march of Yankee agriculture is a regular quickstep. — — — The Prussian Bureau of Statistics has just published some interesting documents with regard to the progress of breeding domestic animals in that kingdom, from which we learn that there were in Prussia

Horses,	1,240,000	in 1816,.....	1,617,000	in 1858.
Horned Cattle,.....	5,013,000	do.	5,487,000	do.
Sheep	8,260,000	do.	15,362,000	do.
Swine,.....	1,494,000	do.	2,577,000	do.
Mules,.....	— do.	—	340	do.
Asses,.....	— do.	—	7,336	do.
Goats,.....	143,000	do.	664,019	do.

Showing, by reducing other kinds of stock to an equivalent in cattle, that in the forty-two years, Prussia had increased the number of her domestic animals nearly one-half (43 per cent.) upon the live stock she kept at the commencement of that period. We are promised farther facts in connection with these figures, and at present will only call attention to the rapidity with which *Sheep* have increased in numbers with the improvement of agriculture, while *Cattle* have been almost at a stand-still—the increase in goats probably assisting to some extent in supplying whatever increased demand there may have been for milk.

Prussian agriculture shows a decided tendency to substitute bone dust for purchases of guano, and to mistrust the mixtures sold by manure makers. — — — A trial has been made to introduce Ericson's engines in Prussia—as yet without success. — — — Portable engines for farm purposes are still very rare there, the duty keeping out engines of English manufacture, and those of domestic construction failing to do their work well. — — — Experiments made in Bavaria, in the preparation of peat, have excited a good deal of attention among agriculturists. There and in some other parts of Germany, peat is a very important article of fuel; we remember to have seen it in large open sheds to admit of ventilation, along the lines of some of the railways for engine use, just as in this country, the roads are bordered with wood sheds. — — — Liebig and others have done much to call attention to the importance of utilizing the sewage of cities for manorial purposes, without any experiment having thus far been made to

answer their efforts and expectations. — — — The report of the Prussian Bureau of Rural Economy, from which these last items are taken, says that Short-Horns are there constantly coming into higher appreciation, although the results of purchases of them in England have not always proved satisfactory. — — — The utility of great market fairs for the sale of animals of a particular kind is now fully recognized among Prussian agriculturists. A horse market established at Konigsberg was sustained successfully in 1860; a sheep fair was instituted in Pomerania, and a horse fair at Bromberg.

Agricultural education appears to be advancing more rapidly in Germany than in any other country, if one may judge by the number of schools and pupils. In Bavaria it appears that they are now establishing "schools of meadow culture;" one district alone (Upper Franconia) has three, and in Lower Franconia one has just been opened which already numbers 45 pupils and 12 professors. Efforts are also making for the establishment of "Schools of Sylviculture." — — — In the central administration of Wurtemberg, it was lately proposed to appoint for each "circle" or district, a nomadic professor who should spend all his time in travelling, in giving agricultural advice and instruction, in preparing reports, and acting as an arbitrator or referee. This plan having failed to meet the approval of the ministry, several of the "circles" have chosen men of reliability to serve as "agricultural technologists," and charged them with what we take to be a sort of agricultural survey, together with such other duties as the interests of agriculture may demand. — — — It is stated that Professor Rau has collected at Hohenheim twenty or more school teachers, to give them agricultural lessons, which they may in turn impart to their pupils during the coming winter sessions. — — — In France, Agricultural education is not advancing as its friends could wish; nevertheless the means of extending agricultural instruction among all classes of society, are now studied and discussed, and improvements are hoped for "in the lot of the professors, and in the education of the pupils."

CANADA THISTLES AND CLOVER.—I think from past practical experience with Canada thistles, that thorough plowing will do more to eradicate them, than years of digging. We have tried both. I would advise those that have them to plow them, but be careful of the plow—clean it well before using elsewhere. We always cut clover early, and leave the second crop for seed.

J. T. HOWELL.

Plaster, Ashes, and Experiments.

A late number of the Boston Cultivator furnishes the following statement and suggestions; and such experiments would be doubtless of much value if carried out, remembering that no single experiment is sufficient to form a conclusion, but they must be several times repeated, under all varying circumstances:

Mr. E. L. Metcalf of Franklin, informs us that a mixture of plaster and unleached hard-wood ashes, in about equal parts, made a little moist, and kept in a heap protected from rain, for four to six weeks, and then applied to crops, will generally produce a highly beneficial effect, even where plaster alone would produce no effect at all, and in all cases the benefit is greatly increased over that of pure plaster. Applications of this compound, and of plaster and ashes by themselves, and of guano, superphosphate of lime, &c., might be made by sowing breadths across fields, leaving spaces between without anything. The result would afford an indication of the comparative value of the different substances, and might show whether any of them could be profitably used for this purpose.

DISEASE AMONG SWINE.

EDS. CO. GENT.—There has been a disease among hogs in this town, the past month, which has proved fatal in most cases, and is in all cases confined to the *barrows*. I had two taken at the same time, the 6th of July. They did not come to the trough to eat for four days, and refused all food and drink but water. Stiffness in their hind parts, a great difficulty in voiding water, and inflammation, were the symptoms. I consulted the **COUNTRY GENTLEMAN** for a case in point, but could find nothing noticed or prescribed that met my case; but in **THE CULTIVATOR**, Vol. 10, Feb. 1843, a correspondent states the loss of a fine hog under circumstances that seemed to meet my case, but as no remedy was given, and I could not find any in subsequent volumes, I concluded to experiment a little, for I was satisfied that the hogs could not live long unless soon relieved.

I first gave $\frac{1}{2}$ an oz. *salt peter* in a pail of water for each. I then put a pint of soft soap in warm water, and with a scrub broom, rubbed them thoroughly. To $\frac{1}{2}$ a pint of the *spirits of turpentine* I put one oz. *salt peter* well pulverized, and with an old paint brush I washed the loins and abdomen, and after the second application, (two hours after the first,) they voided water, and appeared relieved the next day. I washed again with the soap and water, but omitted the other wash. They continued to improve, and the afternoon of the fifth day from the time they refused their food, they eat with a good relish. The next morning I gave $\frac{1}{2}$ lb. of sulphur; the second day after, I repeated the dose, and they are now doing well. The hogs have access to charcoal and ashes, and salt in their food once a week.

J. R. PRINCE.

Erie Co., N. Y., July 19, 1861.

[For the Country Gentleman and Cultivator.]

CORN AND WHEAT CULTURE.

EDS. CO. GENT.—Some time ago I agreed to give the result of an experiment I was then trying in manuring corn in the hill, with a compost of about equal parts of leached and unleached ashes, wood-pile shoveling, and hen dung—a good shovelful to about four hills, thrown scatteringly into the hills, and the corn planted on it and covered in the usual way. We took the compost out in the cart and applied it in that way to eight rows at once across the field, then omit eight, and apply it to the next eight, and thus we done to 32 rows across a 15 acre field, and made no other difference in any part of our work. In the fall we cut the corn off and put it up in shocks of 8 by 8, or 64 hills in each shock. At husking we were very careful to keep each separate, and counted the ears in about twenty shocks of each, and that which was manured averaged 99 good large ears per shock, and the other 65 ears, not quite so large, and each shock had about half that number of soft and small or defective ears; the whole crop was small on account of rather late planting with bad seed, not more than one-third of which grew, and the replant was so late it could not mature.

The present year I have about 40 acres planted, about one-quarter of which we manured, broadcast, heavily from the sheds in the barnyard. From present appearances the crop will be large. I learned by sad experience last year to save my seed corn properly, and it seems this year as though every grain grew vigorously.

The more I see and know of manure, the more important it seems; even in this rich country (the Whitewater valley) it is much needed, and is still very much wasted, and scarcely economized or applied at all by great numbers of the old settlers, who just allow it to go to waste, while their farms are every year getting poorer. A good deal has been written lately about the mode and time of applying it. I have concluded that it is a very good way, on good land in this vicinity, to plant corn in sod fields without manure the first year, and the following spring

haul out all the manure you can get, and spread broadcast and plow it in well, and plant corn again. In the fall cut the corn off, if it can be done soon enough, and put in wheat, or if it cannot be cut off, sow wheat among the corn in September, and cover with the double shovel plow—in either case the ground will be too rough for grass. Next year plow the stubble in thoroughly as soon as convenient after harvest, and at seeding time plow again well and sow timothy along with the wheat, at the rate of about one bushel to eight acres, and half that quantity of clover in the spring; then you will have nice, clean, level mowing ground and good hay for years.

Burr Oaks, New Paris, Preble Co., Ohio.

S. S. R.

[For the Country Gentleman and Cultivator.]

MERCURIAL OINTMENT FOR LICE.

EDS. CO. GENT. AND CULT.—Your correspondent Mr. E. Marks, page 28 of Co. GENT., inquires if any one has had any experience in the use of mercurial ointment as a remedy for lice on cattle.

Mercurial ointment is usually made of quick silver and lard mingled together until it forms a soft paste; and there can be but little doubt that the illness of his cattle, and untimely death of one of his steers was the natural and certain result of the application of that compound to them. Mercurial ointment is a very dangerous medicine to use, either on man or beast. It is a very powerful medicine, which is proved very conclusively by its efficacy in sweeping away so soon, immense numbers of lice.

We often see a poor pitiable, forlorn wreck of humanity, whom calomel has not quite killed; and we wonder how it can be that such a small amount of medicine produces such an effect on the human system. It does it in the same manner that mercurial ointment injures cattle.

About twelve years ago, I had a lot of calves which were somewhat infested with lice, and I was induced to apply mercurial ointment. The ointment had the desired effect, so far as destroying the lice was concerned; but the effect on the health of the calves was so alarming, that I feared they would never recover.

I had always been told that, when mercurial ointment is applied to animals, it is very dangerous to allow them to be exposed to a storm, just as it was dangerous to allow a person to drink cold water after having taken a dose of calomel. Consequently, they were not allowed to go into the yard unless the weather was pleasant, for more than two weeks after the ointment had been applied. After two weeks had expired, I concluded all danger was passed, and they were allowed to run in the yard all day; and as soon as they got wet, there appeared to be an unusual irritation of the skin, and they commenced scratching, and licking themselves and each other; and in a day or two they nearly lost their appetite, and appeared sick, and lost much flesh, and it was several weeks before they appeared to have recovered. Indeed, I think they did not fully recover from the pernicious effects of the ointment until sometime during the succeeding summer.

It is very probable, that by licking themselves and each other, they collected more or less of the ointment on their tongues, and swallowed it, which exerted a deleterious influence on them, to a greater extent, perhaps, than could be attributed to the effects which would be produced by the external application only.

There is no necessity for resorting to mercurial ointment, as a remedy for, or destroyer of lice on animals; because, lamp oil—as has often been recommended in the Co. GENTLEMAN and CULTIVATOR—is very effective, not only in perfectly preventing the propagation of parasites on neat cattle and horses, turkeys and gallinaceous fowls, but in destroying them, even when they are numerous. And more than this, if lamp oil be applied very abundantly, there is no danger that it will injure an animal, in the least, even when exposed to storms. But, there is great danger in using mercurial ointment.

S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

HUNGARIAN GRASS.

MESSRS. EDITORS—Seeing some inquiries concerning "Hungarian Grass," from your correspondent "Hampden," and also a little advice from "J. C. A." on the same subject, I thought I would give you a little of my experience. I commenced raising this grass four years ago, by sowing the last of July and raising five tons to the acre. It was fed to all kinds of stock the following winter, and did admirably, for sheep especially, answering as well as timothy and oats *combined*. For other stock than sheep the seed is of no benefit, as it passes directly through them; but the grass itself comes the nearest to the genuine green article, when fed in the winter, of anything that can be raised. As for its being the cause of "stiffs" in horses, this is a worse humbug than the "pigeon grass" of which our friend "J. C. A." speaks. The complaint alluded to, was well and *dearly* known here in Iowa before a grain of Hungarian was brought into the State. I am well acquainted with a man living four miles from me, who this last spring lost five horses by "stiffs," not one of them ever having tasted Hungarian. I have nearly twenty acres of it this season, and knowing its good qualities, should be very unwilling to exchange for any twenty acre grain crop in the State. "J. C. A." must not answer for the entire community.

W. B. J.

Iowa City, Iowa.

One word for your correspondent "Hampden," about "Hungarian grass." We last year sowed two acres—harvested from half a bushel per acre sown, some 6 tons—kept milch cows, horses and colts, sheep and poultry on same most of the winter, or until gone, *without other feed of any kind*, keeping all in better condition than could have otherwise been done with best timothy or clover hay, and corn or oats.

Our farmers have sown this grain (or grass, if you please) for several years past, and *generally prefer it to any other feed*. But one thing seems evident—if it is permitted to attain full ripeness before cutting, horses should not be allowed to have *too much seed at once*, else it causes bad effects; but if cut when just out of bloom, nothing can be better for any stock or more easily grown. Sow in the first weeks of May from a half to three-quarters of a bushel per acre, (not requiring a strong soil, else too rank of growth,) and I truly believe "Hampden," and all others, will bless the day that brought this new grass to our notice. I consider it *indispensable* to every farmer when cut early and judiciously fed. I trust "Hampden," and others, will give it an early trial, and give us the results through your best of all agricultural journals.

London, O.

W.

[For the Country Gentleman and Cultivator.]

VALUE OF WOOD ASHES.

Nine years ago, while on a visit in Fairfield county, Conn., I observed some fields that produced very poor crops of both grain and grass; and seeing heavy crops on those very fields this season, 1861, I thought it worth while to look up the proprietor, and to inquire what kind of manure he had used to restore those impoverished fields to such a state of fertility? "Nothing but wood ashes," was his reply. "I purchase," said he, "all the ashes that I can obtain at eighteen cents per bushel, within a convenient distance of my farm, and it pays well, not only for grass, but for Indian corn and potatoes." On some soils where Indian corn is raised, and where a handful had been applied to each hill, a stranger would find no difficulty in determining at once where the ashes were applied, and where there had been *none* applied.

Ashes cannot fail to be very valuable on most kinds of

soil, in localities where the price per bushel is not more than five or six cents, although we seldom perceive such immediate and lasting effects as we met with on such soils as we find in Connecticut—sandy and gravelly loams.

My own experience with wood ashes, both leached and unleached, is, that it is far more profitable to sow them on meadows in the spring, or sow them on any kind of cereal grain, or potatoes, than to sell them, as most farmers are in the habit of doing. Unleached ashes are far better than leached, not only for grain and grass, but for young trees or roots—turnips and potatoes.

When we have sowed wheat or any other kind of grain, where there has been a log heap or brush heap burned down, why does the straw or grain keep erect before it is harvested, much better and longer than it does in other parts of the field? Because there is an abundance of potash in the soil, which is an indispensable ingredient in the formation of the straw; and where there is little or no potash, the straw is almost always very slender, and the grain is very liable to fall down before it is ready to be harvested.

Mediterranean wheat is very liable, on old land in Central New-York, to fall down a few days before it is ripe; and it is owing many times to the want of a sufficient amount of potash in the soil, to give that degree of stiffness to the straw, which is so important to keep it erect until it is fit to cut.

It is a very great mistake among multitudes of pretty good farmers, that there is little or no efficacy in wood ashes. Coal ashes, although by no means as valuable as wood ashes, are worth saving and applying to grass land. I have seen corn growing most luxuriantly on a poor sandy loam soil, which had received a large handful of coal ashes per hill; and a man showed me a heavy piece of grass in Greenwich, Conn., which had received only a top dressing of coal ashes, where the grass in 1860, was hardly worth mowing. Ashes, either wood or coal, leached or unleached, should be carefully saved and sowed on meadows. In years past, when the sleighing was good, my team has hauled a great many loads of leached ashes five miles. But it is doubtful whether it will pay to haul *leached* ashes as far as that, except to be applied to certain kinds of soil. But where leached ashes can be obtained within about two miles, for nothing but the expense of hauling them, it will pay well to draw them. But I should prefer to pay six or eight, and under certain circumstances, eighteen cents per bushel, for unleached ashes, than to haul leached ashes for nothing. Their value, for the most part, depends upon the amount of potash in them; and there is but little potash in ashes that have been leached.

S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

STRAWBERRY PEAS.

During my visit in Greenwich, Conn., I met with a variety of very early garden peas, which they call strawberry peas. Those that I saw were about eight or ten inches high; and the pods were very numerous on them. They need no brushing, nor any other support while growing; and to appearance, there were as many pods on them, as on those that had vines four feet high. They come to maturity very soon after planting, and by planting a row or two every fortnight, they have green peas for several months.

S. E. T.

THE GREAT VINCENNES PEAR TREE.—Some of our readers may have heard of this tree. The following statement of one of its crops, is furnished by a correspondent to the Ohio Farmer—"I think I have written you at some time, in reference to the large pear tree in this county, planted where it now stands in 1804. In 1837 it bore one hundred and forty bushels of fruit, and was seventy-five feet across the top, sixty-five feet high, and ten and a half feet girth at the smallest place below the limbs; but two years ago it suffered severely from a tornado, losing two of its principal branches, and now is fast going to decay."

HORTICULTURAL MEMORANDA.

DELAWARE GRAPE.—Nearly all the observations made in different parts of the country indicate the extreme hardiness of the Delaware, and that it escaped unhurt where other sorts were killed.

GROWTH OF MAPLES.—We lately measured the trunks of a row of maples set out 18 years ago in the town of Sennett, Cayuga Co., N. Y., by H. Fellows. They stood by the roadside, received no care, and now average one foot in diameter, and 30 feet high. One was 14 inches in diameter. The sugar maple does not grow nearly so fast as the silver maple—and both would grow faster if cultivated. Large shade trees need not require a life time for their growth.

CHAMPION OF ENGLAND PEA.—Among all the sorts introduced of late years, no variety of the pea appears to exceed, if equal, the Champion of England. Several eminent horticulturists have given the same opinion. Those who have ripe seed at the present time, will therefore be careful to save and *mark* them.

STRAWBERRIES.—The Editor of the Am. Agriculturist has received specimens of the Triomph de Gaud from J. Knox, the great strawberry marketer at Pittsburgh, in good condition, after 16 hours over the railroad. Some were $5\frac{1}{2}$ inches in circumference. Their quality, as our readers are aware, is excellent. Some specimens of the Austin seedling (Shaker) were received that measured $5\frac{1}{2}$ inches in circumference. They are not so firm nor so good as the Gaud.

STRAWBERRIES AND CORN.—Joseph Harris of the Genesee Farmer, says that when in Illinois this summer, he was informed at Bloomington that Wilson's strawberry sold at 15 cents a quart, and corn eight cents a bushel!

CAHOON PIE-PLANT.—This variety, now generally discarded, has been sold extensively for a few years past at high prices, as many of our readers are aware. Dr. Kenicott remarks in a late number of the Prairie Farmer, that it was never worthy of any other notice than for condemnation, and yet, he adds, "more money has been made by selling the plants, and more labor lost in growing them, than with half, if not all, the other American seedlings."

NEW ROCHELLE BLACKBERRY.—To have this berry in perfection, it must be left on the bush until it is fully rounded, intensely black, and drops from the stalk by a touch; it will then be sweet and juicy. If taken earlier, even when black, the berries will be hard and sour. The Homestead says, that unlike common blackberries, which are red when they are green, these continue green after they become black.

[For the Country Gentleman and Cultivator.]

Protecting Animals from Rain Storms.

I believe that farmers, generally, are not aware how much loss they sustain in the flesh of their domestic animals, and how much they suffer during cold storms of rain in the summer, or at any other season of the year. Warm showers never injure animals; indeed, they appear to have a good relish for such a sprinkling as they frequently get, providing it is not as cold as ice. Most animals will endure pretty severe cold, as long as they can keep dry; but, as soon as their bodies have been wet, and are kept wet, evaporation commences. And as evaporation is a cooling process, the heat of their bodies is carried away very rapidly; and the sudden transition from heat to cold chills them in a very short time, and injures them more than a severe storm in winter.

Animals will endure a very sudden change from cold to heat, with impunity; but, sudden changes from heat to cold are often attended with very injurious consequences. We are apt to think because it is summer, or not freezing weather, that a storm of rain will not hurt our animals. But, could they communicate to us their feelings during a storm of cold rain, there would not be so much negligence about protecting them, especially during the cold and stormy days and nights of autumn.

I well remember, that about twenty years ago, there was a severe rain storm in the month of June; and although our sheep had been sheared more than two weeks, we thought they ought to be brought home to the barn. But many of them were so cold and feeble in consequence of the rain, that it was necessary to go after them with a wagon.

About the first July, 1861, there was another very cold storm of rain, which swept away hundreds of sheep in the town where I reside. One farmer lost about sixty of his choicest sheep, although they had been sheared several days before the storm came on. I have heard of more than three hundred lost during the storm.

It is infinitely better for animals, to keep them in a stable or shed, where they can not get a mouthful of food for twelve successive hours, than to allow them to be exposed for only two hours to a storm of cold rain.

When I was accustomed to keep sheep, I was always careful to let them have the benefit of a shed, if they needed it, not only in winter, but during summer; and it was very unusual, that our horses and neat cattle were left, for one hour in the field, during a cold storm. Cold storms not only make horses *look* bad, but they do really injure them, by rendering them stiff and dull; and they often contract severe cold, which many times, will superinduce catarrh and glanders.

Young calves and colts often suffer extremely from exposure to cold storms, even in summer; and to shelter them, will be time and money well appropriated. "A merciful man regardeth the life of his beast." S. E. T.

[For the Country Gentleman and Cultivator.]

Remedy for Cows Sucking Themselves.

Ens. Co. GENT.—I see in the Co. GENT. of Aug. 6, an article on self-sucking cows, and as a remedy splitting the tongue. Now if my experience is worth anything it is at your command.

Nearly forty years ago I had a fine ox about five years old, and very suddenly in the winter our milch cows, I think three in number, ceased to give milk, and soon the difficulty was discovered, for lo! the ox did the milking. A neighbor told me to split his tongue, which I did, for about two inches in length. It did not appear to injure him. In three or four days he ate as freely as ever, but his sucking was done; it was effectual. I never had another case. J. BOWMAN. Baldwinville, N. Y., Aug. 3.

[For the Country Gentleman and Cultivator.]

The Durability of Mulberry for Fence Posts.

Nine years ago I spent a few weeks in Connecticut, and Capt. J. Peck, Greenwich, showed me a mulberry post which had been standing on one side of his barn-yard for more than forty years. As I was visiting him in the month of June, in 1861, I inquired more particularly about that post, which is now standing in the same place. It was a green post, about eight inches square, when it was first set; and although it stood in a very unfavorable place to put its durability to a fair test,—where manure was piled around it during more than half the year—still, it stood more than fifty years, before it rotted off near the surface of the ground. It has been re-set, as it was a tall one, and as it is now well seasoned, it will without doubt last sixty or seventy years longer.

Were mulberry posts thoroughly seasoned before they are set, and smeared with a good coat of coal tar near the surface of the ground, they would doubtless last one hundred years, or even more.

S. E. T.

Inquiries and Answers.

PLUM ON THE PEACH.—Will you be so kind as to inform me, through the columns of the COUNTRY GENTLEMAN, what the advantage is in working the plum on peach stocks. I purchased some plums two years since of an eastern nurseryman, which prove to have been worked on peach; do they grow as thrifty, do they come into bearing as soon, do they bear as abundant, and do they last as long as those worked on plum? H. W. P. Oregon, Mo. [The practice of working the plum on the peach, which prevailed to some extent several years ago, is generally condemned by fruit-growers. A few sorts succeed in this way—we have seen a bearing Imperial Gage, several inches in diameter, and in a thrifty condition, which had been thus propagated, but such instances are probably less than one in a hundred. Attempts were made by some nurserymen to induce the plum to strike roots of its own, by banking up the stem with earth, but it rarely succeeded. While therefore, a very few sorts of plum might do well for a time, as a general rule such trees prove failures.]

RECLAIMING BOGS.—I have a portion of bog-land—how can I best clear off the coarse plants, and will it raise vegetables? It is not very wet, and no water stands on it. SUBSCRIBER. [It will be absolutely necessary to drain it; water often does great harm beneath the surface where none is visible. Cut out the coarse growth when well dried, by a sharp spade, if on a small scale, or with a steel plow, if the field is large, and make compost heaps of it. Manure and a little ashes, applied to such reclaimed bog, will raise all vegetables of a succulent nature, or which have a large growth of leaves, such as cabbages, turnips, pumpkins, pie-plant, corn, &c.]

SWINE.—A Subscriber would be pleased to learn through the next No. of THE CULTIVATOR—1. At what age do young sows first litter? 2. Can swine and progeny be well and advantageously kept on the rear of a city house lot, without being a nuisance, or do they require a larger field of action? 3. Where can the true Suffolk pigs be bought? 4. Is that the best breed to be kept in a city? A. B. Albany. [1. A sow will sometimes produce young at ten months; at twelve more frequently; and as a general thing they should not be put to the boar under about a year. The period of gestation is three and a half to four months. 2. An affirmative answer may be given, provided the city lot is large enough, and the attendant is of cleanly habits. We do not refer to personal cleanliness, but to a habit of keeping the apartments of animals in perfect condition. The rear of some city lots inhabited by human beings, is worse than many pig-styes. The hog himself dislikes dirt, and only suffers it as a choice of evils. If the pig-pen is cleaned and washed at least twice a day, the labor will be very small, and very little odor will ever be perceived. The labor will be repaid in the increased thrift of the animals. Refuse matter should be constantly mixed with some absorbent, as coal-ashes, charcoal, dry soil, &c., and will make a valuable garden manure. 3. Suffolks may be had of the Messrs. Stickneys at Boston, and others. 4. The Suffolk and Berkshire are probably the best breeds, or crosses from them with more common animals. We have found that a half blood Berkshire, (a cross with native swine) would give twice as much pork for a given amount of food, as the natives alone. A hog is a most profitable animal for a family, consuming much refuse food to great advantage. If fed with grain it should always be ground; and no food given should be much diluted with water, as this makes big bellied and poor animals.]

RUPTURE IN A COLT.—My father has a fine colt about seven weeks old that has a rupture in the scrotum, supposed to have been caused by an attempt to get up soon after he was foaled. At times it is as large as a goose egg, and at other times is drawn up so it is not visible. Can you Messrs. EDITORS, or any of your readers tell us what can be done to save him, and oblige us? G. W. L. Torrington, Ct., July 19th, 1861. [We have never met with a rupture of the kind described, and the only information we are able to give, is contained in the following note by Spooner to Youatt's Treatise on the Horse:—"In congenital hernia (that appearing at birth), in the testicle bag, the remedy consists in castration by the covered operation, that is, without cutting into the hernial sac, but placing wooden claws on the cord and the peritoneal membrane, and at the same time forcing the gut gently upwards towards the abdomen. In the course of a few days the testicles will slough off, or may be removed. The writer purchased a colt a few years since for a trifle, being abandoned by its owner as worthless, on which the operation was successfully performed, and the colt sold afterwards at a good price."]

APHIDES ON WHEAT.—The enclosed head of wheat is a specimen of a whole field of spring wheat. When picked, the insect adhered to the root of the kernel outside the husk; it is about a week since I discovered it. Please inform me what they are, and also if injurious to the wheat? J. W. [The head of wheat and its insects being simply enclosed in a letter, they came much broken or crushed, but enough appeared to show them to be similar to the aphides spoken of on page 32, No. 2, of the Co. GENT, and the same remarks will apply here. Aphides, when in great numbers, injure or destroy vegetable growth by sucking out the juice, and these might prove destructive in the same way, should they multiply and become sufficiently numerous.]

CHARCOAL—MANURE.—Will you give me information on the following points through THE CULTIVATOR. 1. As to the best way to convert brush, old rails and other refuse wood, into charcoal for absorbent purposes. 2. I am about preparing a compost of night-soil, chip dirt, hen manure, leaf mold, &c., to apply to a small fruit garden next spring; would you omit the space intended for strawberries or not? C. N. B. Preble Co., Ohio. [Make the refuse into a pile, cover it slightly with earth as in a common coal pit, fire it, and admit air enough to make slow combustion. Unless the land is already quite rich, we would give it a moderate manuring for strawberries, especially if of the most productive sorts, such as Wilson's Albany and Early Scarlet, for instance.]

GETTING ROCKS OUT FOR A WELL.—What is the best way to dig or tear out the slate rocks in my well, about four or five feet deep in the rocks? Blasting does no good, only throws a small piece up, and digging up with a pickaxe is very hard and slow work. B. [Can any of our readers reply?]

EMBREE'S BUTTER WORKER.—Do you know anything of Embree's Rotary Butter Worker, advertised by Paschal Morris? The statement that twenty pounds at a time can be worked in three minutes appears so extravagant that I hardly credit any of it. If you, or any of your readers, have had any experience with it, I would like to have your opinions in the Co. GENT, whether favorable or not, as to the rapidity, ease and thoroughness of work, ease of keeping clean, &c.—also the price of the machine, and the nearest place where it can be bought. Wm. F. BASSETT. [We have seen this Butter Worker, and should think it might easily do all that is claimed for it by its manufacturers. As a labor-saving invention we formed a favorable opinion of it, and heard the highest satisfaction expressed with its practical operation.]

"CHAIN STUMP-PULLER."—Robt. F. Fowler, California, wishes to ascertain who is the patentee of a stump-puller under this or a similar name, but his description is so imperfect that we cannot tell what one refers to. He wants to know the price for patent-right for an individual or a county. His address is at Sonoma, and any parties desiring to correspond with him, can write to him directly at that place.

HYDRAULIC RAMS.—One of your readers asks of hydraulic rams. My partner says, having had experience, that any fountain head of one gallon per minute, will drive a small ram, lifting the water ten feet for every foot fall. We are busily engaged putting in a No. 3 ram where we have a fall of 13 feet, by digging a ditch 220 feet long, which averages six feet in depth; and the height for the water to be raised is 100 feet—the distance carried 900 feet. If he will wait a month he can have the benefit of our experience.

Doniphan Co., Kansas.

ED. RUSSELL.

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[For the Country Gentleman and Cultivator.]

THE GRAIN APHIS AND LADY-BIRD.

A species of Aphides made its appearance on the oats in this neighborhood about the 18th of July. It was of a reddish brown appearance, and after a short time they assumed the form of a fly with wings. They gathered in clusters around the stem connecting the grain with the stalk, and deprived the grain of the juices necessary to its development. The larvæ of the lady-bird were very numerous, and I never had such an opportunity of observing its habits. It is a pale blue insect with reddish spots along its sides, and it is quite an interesting sight to observe it seize upon these aphides and devour them, and then to watch its transformation into the beautiful lady-bird. I have been truly delighted in observing the changes it passes through; fastening itself to a leaf, the skin of the larvæ bursts open, and a reddish bug appears that gradually takes the form of a perfect lady-bird.

Hunterdon Co., N. J.

J. W. L.



ALBANY N. Y., SEPTEMBER, 1861.

July 25th and 26th we spent in Dutchess County, where we found the Haying nearly completed, the Rye much of it cut, the Oats promising a fair yield, though very short in the straw, the Corn somewhat backward, and Fruit almost wholly cut off, but the character of the Season, as a whole, rather favorable than otherwise. The Grass crop particularly is a heavy one—Mr. THORNE said the heaviest that has been cut for years at Thorndale. An insect has appeared in that vicinity quite suddenly and in large numbers, within a few weeks past; red or reddish brown in color, fixing itself at the lower end of each grain in the Oat heads, and to some extent in other Grain, and apparently eating into the berry, although the amount of real damage it is capable of doing has not as yet been tested. We have sent samples to Dr. FITCH for his examination. Mr. THORNE will soon have a field of barley thrashed out, in which it was also quite thick, and we shall then be apprized farther of what it can accomplish. There appears to be a new insect coming out just now on the grain in several other localities—very likely the same one; an item in the newspapers informs us, for example, of its being very abundant on the wheat in Franklin county, Mass., and we hope to have samples soon from there for Dr. FITCH to investigate.

The Thorndale Short-Horns, it need scarcely be said, are looking their best; although many of his most noted imported animals are still in their prime for service, the gems of the whole at present, to our eye, are those of Mr. THORNE's own breeding; and, in passing from box to box, and from field to field, we were re-assured in the conviction that no inducement at home or abroad will tempt him to part with anything which the future of the Herd is not abundantly able to spare. The heifers that will soon be coming on as breeders, for instance—to go no farther—are a very strong class in themselves—witness such as "3d Lady of Oxford" and Lalla Rookh's "Light o' Love," sisters respectively to the "4th Lady" and "American Cousin" lately exported. With the last Autumn's importation of South Downs—the dozen of Braham ewes, and the "Archbishop," which latter a twelvemonth ago carried away the first prize among the Canterbury "shearlings"—a class which constituted, said the Farmer's Magazine, the strength of the Royal Show, and formed the most "correct illustration" Mr. WEBB had ever given "of what the South Down should be"—together with the very stylish RIGDON ram—we now made our first acquaintance; but we regarded with no less interest a pen or two of yearlings of Thorndale breeding, which largely owe whatever superiority they possess, like the young things among the cattle, to the skill and care that have been shown in the land of their birth.

At the residence of ISAAC MERRITT we found an Isabella vine over thirty years of age, of enormous size and great productiveness, that is really a curiosity. Mr. M. propagates Vines of all the newer sorts upon a considerable scale, and both his grounds and propagating houses evinced the careful management for which he enjoys a wide reputation. He has also a Vineyard of eight or ten acres, which has now been in bearing, in part or in whole, for two or three seasons back. He has been in the habit of preserving the Grapes for sale during the winter by carefully packing the best in tea-chests between layers of cotton, and storing them in a dry place at a low temperature; obtaining for them by the Holidays from 35 to 50 cents a pound at wholesale. Mr. ISAAC HAIGHT has also purchased grapes from this vineyard for Wine making, and we tested a very pretty sample of Isabella from his last vintage.

At Wassaic we went to see Mr. GAIL BORDEN's process of Condensing Milk, of which a recent notice was given in these columns. The strict attention to neatness, not less than the simple nature of the operation,—and the advantages of reducing the bulk, increasing the keeping quality, and securing the richness and purity of milk, for city consumers, are such as to commend the milk, supplied by Mr. B. to the attention of all who can get it. At present he is not engaged in any other manufacture, but hopes to secure the preparation, for the Navy, of his condensed Coffee, and ere long to perfect an improved system of putting up Meats for long voyages or other purposes, without the employment of salt or liquids to harden the texture and extract the juices.

Many are the Notes of Inquiry that come to us from near and far, with regard to the NEW INSECT ON THE GRAIN. The River counties send us samples, and not the Hudson's banks alone, but likewise those of the Connecticut, through the State that bears its name, up into Massachusetts on the north, are overrun with swarms of this invader. We hear of it in Warren, Clinton, Otsego, Schenectady, and Saratoga; and everywhere it seems to be an entire stranger. Wheat heads full of it, packages in papers, and parcels in boxes, envelopes and quills, have reached us by mail and by hand, from all the above and other points, with letters too numerous to publish; but as all the insects that have reached us of late, have been of this one sort, all the correspondents referred to will please understand that this is intended as a general answer to the one common question—What is it? Several samples we have sent to Dr. FITCH, who has not as yet answered us directly, but the following letter from him to Col. JOHNSON, covers precisely the ground required:—

SALEM, N. Y., July 26, 1861.

HON. B. P. JOHNSON—The insect on wheat heads which you send me is a species of plant louse named the Grain Aphis (*Aphis Avenae*, Fab., *A. granaria*, Kirby and Curtis.) It is the same insect which I mentioned to you last week, being sure it would be brought in to you by some one eager to know what it was. I never thought it of much consequence till this year. The grain fields hereabouts are all infested, and many of them are thronged with it, and it appears to be attracting notice everywhere through the State. As the wheat, rye and barley become ripe and juiceless it forsakes them and gathers upon the oats, as these are then green and succulent. Thus the oats are liable to be more overrun and injured by it than either of our other grains. It clusters at the base of the chaff in which the kernels are enclosed, and sucks out the juices that should go to mature the kernel. Hence when it is so excessively numerous as it now is, the grain will be shrivelled and light of weight.

Ichneumon flies, Syrus flies, Lady bugs, and other parasitic destroyers are actively at work upon these grain lice, and will probably have them all so subdued that they will not trouble us again next year.

Tobacco smoke, which is so effectual in smothering the lice on rose bushes and other garden plants, of course cannot be applied to a whole field of grain. The gas from chloride of lime may perhaps be equally efficient in smothering them. I told a neighbor to get some of this and dust it over a small piece of his wheat, (avoiding to breathe the fumes from it,) repeating it again next day if necessary, and in a day or two more he could see if it killed or banished the insects from the spot to which he applied it, sufficiently to render it worth while to extend it to the whole field. But he was not able to find any of this article in our stores here that was diliquesced, and consequently unfit for this use. If any one else is disposed to try it, let him inform us of the result.

ASA FITCH.

An agricultural library association has been organized at Lee, Mass., by choosing the following officers: Alexander Hyde, president; E. Flint, Jr., vice-president; Isaac C. Ives, secretary; and Benjamin Hull, librarian and treasurer. Similar associations have also been formed at Stockbridge, Lenox and Pittsfield.

[C] In a note after a recent visit at Thorndale, we mentioned the abundant appearance of the *Grain Aphis* in the fields of Barley and Oats. We are informed by SAM. THORNE, Esq., under date of Aug. 6th, in response to the inquiries we then made,—that “the barley in question has since been thrashed, and the oat crop all harvested. The general opinion in this vicinity,” he remarks, “is that they have not done very much damage; and the belief that they cut off the oat where it joins the stalk, which all our farmers express—has not been sustained in the various examinations I have made. I am more inclined to believe, judging from both the barley and oats, that they take up the sap that supplies the developing grain, and thus make it much lighter. I could not discover a single head where the grain had the appearance of being cut off; but the grain thrashed from the field that had the most show of the insect, was very much lighter than the rest. Now that the grain is cut, the little fellows are looking up new feed, and one of my turnip fields swarms with them.”

CROPS IN WESTERN NEW-YORK.—I have just taken a ride through portions of Cayuga and Seneca county, and have found farmers mostly in the midst of harvesting. The Wheat crop generally has been better than many feared would be the result earlier in the season, but still it is not more than two-thirds of an average product—some put it as low as only one-half. The Mediterranean wheat was badly winter-killed—the Soule wheat, on the best land, tile-drained where necessary, has been by far the best. Many fields were observed of the latter variety, that would unquestionably yield 30 bushels per acre. The midge is evidently decreasing, but it has sometimes totally destroyed poor crops. Spring wheat is uncommonly good—a large quantity was sown, and it will probably average twenty bushels per acre. The variety is mostly the China Tea wheat. Oats are abundant—crops heavy, and not much beaten down. Corn is rapidly improving under the hot weather, and will have a fair “chance” to ripen well. Many fields appear as well as usual, while many others are quite poor. Hay crop has been tolerably productive—many meadows yielding one and a half to two tons, and a very few even as high as three tons.

The fruit crops are very small—pears almost none—scarcely a peach—apples about one-third or one-fourth the average. Those who have wisely set out plenty of small fruits are now obtaining plentiful supplies of currants, raspberries, and gooseberries, and the Rochelle blackberry is just beginning to ripen in fine trusses. Strawberries have been numerous, but small in size, from drought.

J. J. T.

THE AUBURN REAPERS.—The city of Auburn, N. Y., stands in the midst of a very fertile farming region, and for a town of 10,000 inhabitants is largely engaged in the manufacture of agricultural implements. There are four mower and reaper-manufactories, viz., one for the Kirby machine, manufactured by D. M. Osborne & Co.; another for the Hussey; a third for the “Cayuga Chief,” made by Sheldon & Co., and the fourth for Bal’s, made by Ross, Dodge & Pomroy. Several trials of these machines have been made in different parts of the county, and all have proved very successful. In some instances the committees to award prizes have been puzzled to decide between them, and have handed back the entrance fees to the owners, and made no award. The dynamometer has shown varied results, sometimes in favor of one, and sometimes for another, the average being not widely apart. In mowing, cutting about 5 feet, 300 lbs. has been about the draft required, some below, and others above. On our own grounds we have had an opportunity of trying the Cayuga Chief of Sheldon and Co., and found it to work to much satisfaction. It could be made to cut *within less than an inch of the earth*, if desired, and its height of cutting might be increased to any degree. A piece of rough and sidling ground being selected, it proved itself equal to

sustaining the rough usage required. It would cut perfectly when the horses were moving at the rate of only one mile an hour, or less, and did its work well in turning a circle of less than 6 feet radius. The horses appeared to draw it very easily, nearly as much so as they would draw an empty wagon. This remark applies especially to the small sized mower, the draught of which is exceedingly light. It has a peculiar and useful arrangement for elevating the points of the fingers at a raised angle to pass over stones. It is made of iron, and is strong and durable. Doubtless the other machines mentioned, or a part of them, are its equals in most particulars, but we had not the opportunity of testing them so well.

J. J. T.

[C] The official returns for the twelve months preceding July 1st, show that during that period the United States added to its stock of specie \$42,000,000 from foreign imports of specie, to which must be added \$10,000,000 of gold received from California, beyond the amount exported, making a total increase in the amount of specie held in this country, of no less than \$52,000,000 owing to the deficit in the European and the abundance of the American harvests. This proves the money value to the country of a good season, and also illustrates the pecuniary importance of *good farming*—the primary object of which is to render the farmer constantly more and more independent of the ordinary vicissitudes of season, by bringing his land into the best condition to resist drouths or drain off excessive moisture—by doing all things in their proper time, that nothing may be left unattended to if frosts should come sooner than anticipated—by giving each crop such a vigorous start from the richness of the soil and careful attention at planting time, as best to strengthen it against attacks of insects or the growth of weeds,—and, finally, by farming upon such a system that the land shall constantly be the better and the yield “in a poor season,” if possible, fully equal to the average now obtained in a “good” one. If this definition of the object of “good farming” is a tolerably comprehensive one, we might point to some farmers in our acquaintance who are every day nearer and nearer its achievement. Such farmers, we may add, with scarcely an exception, *read the Agricultural papers*.

[C] Mr. W. O. Hickok of Harrisburgh, Pa., requests us to say through the Co. GENT, that he would be very greatly obliged if agricultural implement dealers and his friends in various parts of the country, will inform him of the situation of the *Air-Crop*; address as above. Those interested will also please observe that in the advertisement of “Hickok’s Cider Mill,” in another column, the price, heretofore published at \$50, should read *forty dollars*, as corrected this week.

A GOOD IDEA FOR AGRICULTURAL SOCIETIES.—At the last exhibition of the Chester Co., Pa., Ag. Society, premiums were offered for the best collections of “Pernicious Weeds and Plants,” that might be submitted for competition. This strikes us as an excellent plan for encouraging farmers and especially farmers’ sons in acquainting themselves thoroughly with the characteristics of these intruders, as well as calculated to lead to the study of Botany in other branches. It appears from the report of the Committee appointed to award the premiums, that four collections were presented—two of them “arranged in groups of *Natural Families*, and affixed in convenient volumes with the proper names of the plants attached; numbering respectively 198 and 126 specimens—the other two unarranged and comprising respectively 108 and 32 specimens. Dr. DARLINGTON, chairman of the committee, concludes his report with suggestions worthy of attention on the part both of individuals and societies. After remarking, that “this is believed to be the first instance of an exhibition in this county, where *weeds* have attained to the importance of an official notice,” he adds:—

“Weeds may be defined to be, Plants of spontaneous

growth, which are either *pernicious* (i. e. poisonous in their properties, injurious by reason of thorns or prickles, or choking out useful plants, by exuberant growth,) or merely *worthless* in Agriculture, as cumberers of the ground. Every good, tidy farmer, is careful to eradicate such plants, or to keep them in due subjection. Of course, his first step in the process, is to learn to *know* them when he sees them. He cannot satisfactorily talk or write about them, without employing *names*; and every intelligent person should be able to use appropriate and approved terms, when treating of objects. Specimens of all vegetables concerned in Agriculture and Horticulture (*weeds* as well as *useful* plants,) should be neatly prepared—arranged in natural groups—and kept in convenient, indexed volumes, in the Library of the Society, for the use of the members. In that way, the volumes could be consulted, and the plants become known, with the same facility as words are learned in a Dictionary."

Our last foreign exchanges come to us with column after column crowded with the results of the "DISPERSION OF THE BABRAHAM SOUTH-DOWNS"—an event only second to the great Show of the Royal Society itself, in importance and interest. Indeed, the high character, increasing value, and "long prices," which make JONAS WEBB's breeding flock conspicuous in our day, really date back to a period "almost coeval with the existence of the Royal Agricultural Society. As the one looked up, the other looked up—as the one extended its influence, the other enlarged the circle of its visitors, until the catalogues of the Society told what Jonas Webb did at the "Royal" meetings, and the catalogues of the Babraham ram lettings echoed what had been issued under the authority of Hanover-square."

The attendance at the great sale, is mentioned by different reporters all the way from 1,500 to 3,000, comprising, beside the owners or representatives of probably nearly every South-Down flock of any distinction in the kingdom, many foreigners from Germany, France, the United States, Buenos Ayres and Australia. In all 968 sheep were sold; 99 two-year-old and aged rams fetched 3052*l.* 7*s.*, 109 shearing rams realised 2710*l.* 1*s.*, 199 shearing ewes made 2203*l.* 19*s.*, 105 two-year-old ewes were sold for 813*l.* 15*s.*, and 455 older ewes realised 2142*l.* The whole of the Babraham flock above the age of lambs was thus disposed of for the sum of 10,922*l.*, averaging 11*l.* 5*s.* 8*d.* apiece.

Of the 1st lot, the two-year-old and over rams, there were three sold for 100 *gs.* or over, Mr. J. C. TAYLOR of Holmdel, N. J., heading this list and going far "to the fore" of any other price, for "No. 89"—which was struck off to him at 260 guineas (say \$1,300) after a sharp competition which is spoken of as the "great event of the day," Mr. RIGDEN's name being mentioned among Mr. TAYLOR's prominent competitors. The next highest was "No. 86," sold for 125 *gs.* to go to France, and "No. 22" bought for the Duke of Devonshire at 100 *gs.* In the other class of rams, the shearlings, there were only two that attained the last mentioned figure, "No. 107," sold to a Mr. FARQUHARSON for 110 *gs.*, and "No. 109," of which Mr. J. C. TAYLOR was the purchaser, at 100 *gs.* Mr. T. also bought "No. 106" at 55 *gs.*

Of the Yearling Ewes, which were sold in lots of 5 and 10 each, "lot 6," consisting of 5 head, were sold at 34 *gs.* per head—said to be the largest price ever obtained for a similar number in the history of the breed. Two lots in this class, of 5 each, (Nos. 7 and 10,) were sold to come to this country, Mr. DULANY, whose residence is not given, being the purchaser. Of the Two-Year-Old Ewes, the highest priced pen of 5, (No. 27) was bought at 13*l.* $\frac{1}{2}$ *gs.* per head, for Mr. SAM. THORNE, who also became the purchaser of lot 31, 5 ewes at 12 *gs.* each. In this class, Mr. J. C. TAYLOR was again a buyer, taking lot 30 of 5 head at 7*l.* $\frac{1}{2}$ *gs.* each.

The foregoing comprises all the purchases made for this country, according to the published accounts, and we see nothing specially remarkable in the sales of ewes in the

different classes not included above. Among the English buyers or spectators the following names will be recognized as breeders or agriculturists, here as well as at home:—The Duke of Newcastle, Lord Feversham, Lord Sondes, Lord Braybrooke, Lord Yarborough, the Duke of Richmond, Messrs. H., J., S., and T. Webb, Lugar, Rigden, Crisp, Clayden of Littlebury, Nisbet Hamilton, Hudson of Castle Acre, Barthropp, Noaks, Lord Winchelsea, Neville Grenville, the Sextons, the elder Garrett, the Overmans, Colonel Hood, Giblett, Clover, Valentine Barford, the Ransomes, Fisher Hobbs, William Torr, Charles Howard, Charles Barnett, Sir Robert Pigot, Sir Thomas Lenard, Jonas, and many others. Indeed it seems to have been a sort of general agricultural congress.

The purchases for the United States, according to the reports above condensed, may be repeated in tabular form:

PURCHASES OF J. C. TAYLOR, HOLMDEL, N. J.

Two-year old Ram, No. 89,	260 guineas.
Yearling Ram, No. 109,	100 do.
do, do, No. 106,	55 do.
Pen of 5 Two-year old Ewes, No. 30,	37 <i>l.</i> $\frac{1}{2}$ do.

Total, (say \$2,260.) 452*l.* $\frac{1}{4}$ do.

PURCHASES OF SAM. THORNE, WASHINGTON HOLLOW, N. Y.

Pen of 5 Two-year old Ewes, No. 27, at 13 <i>l.</i> $\frac{1}{2}$ <i>gs.</i>	67 <i>l.</i> $\frac{1}{4}$ guineas.
do, do, No. 31, at 12 <i>gs.</i> ,	60 do.

Total, (say \$635.) 127*l.* $\frac{1}{4}$ do.

PURCHASES OF MR. DULANY.

Two Pens of 5 Yearling Ewes, each, Nos. 7 and 10, at 13 <i>gs.</i> each—total 130 guineas—say \$650.	
Aggregate of prices paid for 28 South-Downs coming to the United States, say, \$8,545.	

The average per head was thus \$126 for those brought to this country, or more than double the average of the whole sale, which, as above stated, was a fraction over £11, say \$55 per head.

We recently acknowledged the receipt of samples of *Stone-Ware Milk-Pans* from D. E. HILL, Middlebury, O., who manufactures the Stone Water-Pipe advertised in another column. In answer to our inquiries as to their price and process of manufacture, Mr. FRANK ADAMS writes us:—"The pan is made entirely by machinery driven by water-power. The clay is ground, and formed into a ball of the right weight, thrown into the machine, and comes out a perfect pan, at the rate of about five a minute. The arrangement of the machine is such that the clay is packed very close, and consequently forms a much closer body than can possibly be done by "hand-turning," and making every one exactly alike, and of the same weight. The price per hundred, at the shop, is six dollars."

The "Universal" Exhibition and Trial of Mowing and Reaping Machines, held in the Haarlemmermeer Polder, by the Dutch Society of Agriculture, on the 28th and 29th of June last, resulted in the complete success of Machines of American origin. This *polder* or drained marsh contains at the present time some 9,000 bunders (about 4,500 acres) reclaimed as grass land; there appear to have been eleven machines in competition from seven different makers, and the decision as to the prizes was to this effect:

"First prize of 250 guilders, to the joint grass-mowing and reaping machine of Burgess and Key, on Allen's system, for two horses, exhibited by Messrs. Keyser and Swertz.

"Second prize of 200 guilders, to the grass-mowing machine on Wood's system, for two horses. As two of these machines were exhibited, both of which worked equally well, this prize was divided between Messrs. G. Stout of Tiel, and W. M. Cranston of London.

"Third prize of 50 guilders, to the joint grass-mowing and reaping machine of Burgess and Key, for one horse, exhibited by Messrs. Keyser and Swertz.

"Messrs. Burgess and Key therefore take precedence, precisely as they did last year."

BAKED CORN PUDDING.—To one teacupful of corn meal add one quart of milk, three eggs, and a little ginger. Bake one hour.

C Mr. Secretary KLIPPART of the Ohio State Board of Agriculture, has furnished a number of interesting documents to the editors of the COUNTRY GENTLEMAN. In a private letter accompanying them he gives a return in round numbers of the two great crops of that State for 1860, based upon the State statistics now partially tabulated, together with an estimate of the production of the present season, 1861—both of which we give below, in connection with the actual yield reported in 1858 and 1859:

Returns of 1858.	Returns of 1859.	Estimate, 1860.	Estimate 1861.
WHEAT... 17,655,483 bush.	13,349,967 bush.	30,000,000	30,000,000
CORN.... 50,863,582 "	68,730,846 "	90,000,000	75,000,000

The Wheat crop of 1859 was sadly injured by the disastrous frost of June 4, the average yield being but about $\frac{1}{2}$ bushels per acre that year; the largest crop ever reported was that of 1850, of 31,500,000 bushels, or 18 bushels per acre. The average wheat crop of the State for the ten years preceding 1860, was *twenty millions of bushels per year*, (exactly 20,016,460,) so that the estimate above given for 1860 and 1861, is 50 per cent more than "an average," provided a period of ten years is long enough to fix the meaning of this uncertain term.

The largest Corn Crop ever reported was that of 1855, 87,587,434 bushels, or very nearly 40 bushels per acre. The average Corn Crop of Ohio for 10 years preceding 1860 was *sixty-five millions of bushels per year*, (exactly 64,910,358,) so that the estimate for 1860 is very nearly 40 per cent. more than "an average," while the estimate for 1861, if realized at harvest, will be considerably above it.

It is curious to notice in connection with the Corn Crop, that for ten years preceding 1860 there had been a regular alternation of a low crop in the even year, with a good one the odd year. The average crop, for example, for each of the five even years, 1850, '52, '54, '56 and '58, was 55,124,554 bushels, while the average for each of the five odd years, 1851, '53, '55, '57 and '59, was 74,696,162—a difference in favor of the latter, averaging twenty millions of bushels a year. But the season of 1860 comes in to break up this regularity of good and bad crops, by a return unprecedentedly great.

CA sale of Improved Stock recently imported by Mr. SIMON BEATTIE, took place near Markham, C. W., the 1st inst. The prices realized and purchasers were as follows:—

Short-Horn bull Baron Solway—John Snell, Brampton,	4250
do. Heifer, in calf to "Gep. Havelock." H. Jennings,	350
Galloway Heifer, Blooming Heather, John Snell,	320
Ayrshire Cow, W. Ingles, Markham,	165
Six Yearling Leicester Rams were sold at from \$95 to \$120—averaging \$108—aggregate,	648
One three-year old Cotswold Ram,	120
Two yearling Cotswold ewes,	98
do. do. do.	80
Two yearling Leicester ewes,	229
do. do. do.	100
do. do. do.	82
One do. do.	30

\$2,452

Mr. JOHN SNELL was the purchaser of the two highest priced Leicester ewes (for \$229,)—also of the two highest priced rams of the same breed, respectively at \$118 and \$120 each.

CThe Madison County, Ohio, Monthly Stock Sales have several times been reported for us by a correspondent. They are of special interest as showing that some system of Market Fairs, properly adapted to the real wants of our Farmers, only needs to be once well understood in order to become popular. The local paper gives the following as the prices obtained this month—the offerings being fair, but sales naturally sluggish:

27 Yearling Steers, weight, 600 pounds, sold per head at....	\$12.80
15 Two-year olds, do. 1,000 do. do.	22.00
5 Three-year olds, do. 1,100 do. do.	24.12
24 do. do. 850 do. withdrawn at,	15.00
8 do. do. 1,000 do. do.	20.50
46 Two and 3 y'r olds. do. 1,100 do. do.	22.50
50 Yearling Steers, do. 700 do. sold at,	17.05
10 do. do. 825 do. do.	18.50
24 Two-year olds, do. 800 do. withdrawn at,	16.50
1 Six-year old Ox, do. 1,500 do. sold at,	46.25

CThe "racer" breed of Pigs has been often satirized. Seldom, however, more forcibly than by a talkative Yankee in a story narrated in the last *Atlantic Monthly*—the author of which must surely have a turn for practical farming, as well as an exceedingly graceful pen, and a happy knack at depicting character, whether of pig or human, in a clear and forcible light. Of which latter trait our swinish hero shall be an example:—"As to fattenin' on him," says Israel,

"I'd jest as soon undertake to fatten a salt codfish. He's one o' the racers, and they're as holter as hogheads; you can fill'em up to their noses, ef you're a mind to spend your corn, and they will caper it all off their bones in twenty-four hours. I believe of they was tied neck and heels an' stuffed, they'd wiggle thin betwixt feedin' times. Why, Orrin raised nine on 'em, and every darned critter's as poor as Job's turkey-to-day; they a'n't no good. I'd as lieves ha' had nine chestnut rails, and a little lieveser, cause they don't eat nothin'."

PRODUCE TRADE AT MILWAUKEE.—The receipts of Wheat at Milwaukee in 1860, amounted to 9,108,458 bushels—Flour, 597,118 barrels—Oats, 178,968 bushels—Corn, 126,464 bu.—Barley, 109,795 bu.—Rye, 52,382 bu.—Grass Seed, about 15,000 bu.—Wool, 659,375 lbs.—Hides, 85,000.

CIt is stated that Gov. WRIGHT of Indiana, who recently returned from his late post at Berlin as United States Minister to Prussia, brought with him, for his own farm, a number of Saxony and Merino sheep.

CGov. SEWARD'S Arabian Horses will be exhibited at the State Fair at Watertown this year.

CGen. VAN RENSSELAER last week showed us a fine Pine Apple grown under glass at the Manor House, weighing *five pounds*. Such success is rarely met with except by gardeners of long experience in this particular direction.

CIn order to relieve the embarrassment of those who hold lands of the Illinois Central Railroad, in being unable at present to dispose of their grain and meet payments now due,—notice was given by J. W. FOSTER, Land Commissioner, under date of June 28th, that the Company would thereafter receive corn in payment of notes for land, as follows: No. 1 white, 20 cents; No. 1 yellow, 19 cents; mixed 17 cents—delivered on the cars at the nearest station. All unsound corn sold at Chicago on account of the owner.

ENTOLOGICAL PINS.—These pins, of German manufacture, may be had of S. S. & W. Wood, 389 Broadway, New York, who also keep fine plates of cork, for lining the insect cases, to receive the pins. These pins, a specimen of which we have recently received, are a beautiful article, being long, slender, and of high finish, and do not injure even very small beetles when driven through them. Two or three dollars worth of cork and pins, by express, will give the young scientific farmer a fine start in preserving specimens of insects.

ADAMS Co., PA., AGRICULTURAL SOCIETY.—We are preparing for our annual agricultural exhibition, which takes place Sept. 23—26. Our list of premiums will be respectable. Our officers are JOHN BURKHOLDER, President; Jacob Ditzer and Wm. Walhay, Vice Presidents; George Wilson, Recording Secretary; Wm. B. Wilson, Corresponding Secretary. Competition open to the world. We have about five acres of ground beautifully situated, with good spring water on the ground, and all necessary sary buildings for the comfort of man and beast. W. B. W.

CIt is the intention of the French Government to hold an International Exhibition of Fat Stock at Poissy during the first week of April, 1862. It is proposed that in addition to the prizes for Steers and Wethers, to which in 1857 the prizes were confined, there shall be prizes for Fat Cows.

CA Washington dispatch under date of August 3, states that Isaac Newton of Pennsylvania, has been appointed Chief of the Agricultural Bureau, Patent Office.

[For the Country Gentleman and Cultivator.]
STRAWBERRY CULTURE.

From this time to October next is a suitable season to transplant strawberry plants. Some growers of this plant claim that the month of August is preferable to a later period, for the reason that the plants acquire a greater growth and are better rooted than when planted in September and October. That is true; but there is this disadvantage in early planting, the weather is generally so warm and dry that many of the plants are liable to die if not frequently watered, which with large plats is quite troublesome, and in field culture quite impossible. I have succeeded in the culture of strawberries by setting the plants the first week in October, but it is not safe generally to wait till that time, and I recommend any time from August 15th to September 15th.

From considerable experience in growing strawberries, and from extensive reading of the writings of those engaged in the business, both for family use and market consumption, I am fully convinced that the cheapest and easiest way to produce good crops is by adopting the *row* system instead of hills. However, some varieties of plants produce larger fruit on the hill system; but there are kinds that are very prolific bearers in rows, or when the ground is covered with a compact mass of plants. Wilson's seedling will bear enormous crops in this condition, even where the plants are so close that not a particle of earth can be seen. Where the plants are grown in beds or rows on this system the ground is so shaded by the foliage of the plants, that they withstand a drouth much better than when grown in hills.

The usual distance that rows of strawberry plants are set apart depends on the size of the plot in some measure. Far garden culture two or two and a half feet will do very well, but for field culture they should not be less than three to four feet apart. In the garden the plants may be allowed to spread in the rows on each side so as to leave merely a path wide enough to walk in to pick the fruit. In field culture the runners may spread and fill up the entire ground, but as soon as the fruiting season is past a plow should be run through the vines, cutting up the plants in strips from three to four feet wide, leaving rows of the latest growth of plants to restock the land for the next season's fruit.

Old beds of strawberries that have grown into a thick mass of plants should be thinned out with a hoe as soon as the fruit picking season is past, so as to leave the plants standing about a foot apart. If this has been neglected, the sooner it is now done the better, or the growth of next season will be slender, and but little fruit will be produced.

Two years is as long as it is advisable to crop the same plants; and in order to grow this fruit with the best success, means must be taken every season for a supply of new plants. On the row or bed system this is effected by cutting out a large portion of the old vines as soon as the fruit is gone, and allowing the runners from those left to replace those cut out.

It is generally understood, I presume, that strawberry plants are of the two sexes, male and female, or staminate and pistilate. The staminates (males) should always accompany the pistilates, in the ratio of one row of male to three or four of the female plants. Staminates are self fructifiers, and may be grown separate from the pistilates, where it is desirable to do so, but no pistilate, according to the theory now generally acknowledged, can produce its *maximum* of fruit unless it be grown in the close vicinity of a staminate variety.

Where the ground is generally covered with snow during the winter I do not consider it important to cover the vines as a winter protection. I never cover mine, having many large beds, covering about half an acre, and my plants are seldom injured by the frosts. But plants set in the fall are liable to heave out of the ground in the early spring, and it is therefore advisable to plant them early enough to become well rooted, and in the spring to press

those into the earth that have been thrown out by the frost.

When plants are covered for a winter protection, something should be first laid down among them to raise the covering an inch or two from the ground, in order to allow the air to circulate under the covering, or the plants will be liable to be smothered. Any coarse litter, such as barnyards afford, is suitable to cover the plants, but always in a manner to afford some air among them.

Clinton, N. Y.

T. B. MINER.

Snapping Beetle—Blight on Apple Trees.

WEST PLATTSBURGH, N. Y., July 23, 1861.

EDS. CO. GENT.—Inclosed you will find an insect which I found under the bark of one of my apple trees. I was talking with one of my neighbors last night; he is in full faith that the enclosed insect is what has destroyed so many of our trees the past and this season. I wish you to give us your opinion in regard to the matter. The way the tree operates (from some cause, whether in consequence of the sting of this insect, or otherwise) is: The bark will commence and turn black on the body of the tree for 6 or 8 inches in length, and cleave from the wood, and then the sap, or some other substance will run down and destroy the bark to the root. It often occurs on the limbs; it then uses up the limb entirely, and whether its ravages will stop with the limb, is more than I can tell. I had, one year ago, as handsome an orchard as one would wish to see; but this spring there is something that makes a man's heart sick of trying to raise trees in this section. It is not only with my trees, but with all that are in this section. I have laid it to the hard winters and our dry summers for the past two years, but in conversation with this neighbor, as above mentioned, I could not make him believe in that, or that it was the result of anything but the work of this insect.

M. E. O.

The insect accompanying the above is a snapping beetle, one of the numerous species of the genus *Athous* in the family ELATERIDÆ. I have not leisure at present to study out its name. It is quite common to find the beetles of this group under the loose bark of dead trees. Their larvæ are the well known "wire worms," which feed on the roots of plants, and some of them also on the bark and wood of trees, generally trees that are dead. I do not think this snapping beetle has anything to do in causing the malady to which M. E. O. refers. Some of my own apple trees are dead, and others are dying, from the same disease which he so well describes. I at first suspected it might be caused by the soap I was each year applying to the bark to repel the borers from the trees. But further observation satisfies me this is not the case. Several of my soaped trees remain thrifty and perfectly free as yet from this disease. Frequently the first commencement of it is where a limb has been sawed off in trimming the tree. It appears to me to be the same disease which has been so fatal in pear trees, and to which the names "fire blight," "sour sap blight," and "frozen sap blight," have been applied. But, except those which are occasioned by insect, I have not given that attention to the diseases of trees which entitles my opinion to much weight.

ASA FITCH.

IRRIGATION.

The following is Mr. C. Howell's plan to irrigate rocky meadows, &c. He makes a shallow ditch, and runs the stream down on the side of the hill, and then makes small openings along, to let the water flow out by degrees, running down the sides. He stops those openings all up in the fall, to prevent the water from leaching away through the crevices; in this way the rocks are left covered. He has cut heavy grass, (red top, &c.) where three years ago were nothing but rocks, stumps, &c., where those meadows now supply him with hay, so that he has his upland for grain, &c., and it gives a better chance for clover; this is a great advantage. J. T. HOWELL. North Chester, N. J.

ELECTRIC WEATHER INDICATOR.—This neat and curious instrument foretells the weather from 12 to 24 hours in advance. Sent free by mail on receipt of 50 cents by the manufacturers, LEE & CO., Newark, N. J. Liberal discount to Agents.
Aug. 15—w&mft.

IMPROVED SOUTH-DOWN SHEEP.—I shall offer about 40 head of yearling Rams, breeding Ewes, and ram and ewe lambs at my Eleventh Annual Sale, on Wednesday, October 2d, 1861. Having bred from Mr. Webb's topping rams, the quality of my sheep are surpassed by none.

For particulars and Circular address me at Holmdel, N. J.
Aug. 1—m2t.

J. C. TAYLOR.

CHESTER COUNTY PIGS.—AN EXTRA GOOD LOT.

Of Chester Pigs, properly paired, for sale by J. R. PAGE, Sennett, N. Y.

THOS. WOOD continues to ship to any part of the Union, his celebrated PREMIUM CHESTER CO. WHITE HOGS, in pairs not akin, at reasonable terms. Address, PENNINGTONVILLE, Chester Co., Pa.

**S H O R T - H O R N S
AND
BERKSHIRE SWINE.**

FOR SALE.
A few COWS and HEIFERS, one aged BULL, and three or four BULL CALVES.

A yearling BOAR HOG, several SOWS and PAIRS OF PIGS two months old.

Prices in keeping with the times, and delivered in New-York, on rail car or ship board, free of charge.

Apply to L. G. MORRIS,
Herdsdale Farms, Scarsdale, P. O., Westchester Co., N. Y.
July 4—w&mft.

FIRST PREMIUM
AWARDED BY THE
N. Y. STATE AGRICULTURAL SOCIETY,
At Elmira, October, 1860,
TO HARDER'S HORSE POWER.
THE subscribers Manufacture, at Cobleskill, N. Y.,
ENDLESS CHAIN HORSE POWERS,
COMBINED THRESHERS AND CLEANERS,
THRESHERS AND SEPARATORS.

These Powers operate with greater ease to the team than others, running with very low elevation, and slow travel of the horses. The Combined Thresher and Cleaner runs very easy, is capacious, separates the grain cleanly from the straw, and cleans as well as a regular fanning mill. In short, THESE MACHINES HAVE NO EQUAL, of which fact we are confident we can satisfy all who will consult their own interest by addressing—

R. & M. HARDER,
Cobleskill, Schoharie Co., N. Y.

STEEL PLOWS

We are now manufacturing a superior Steel Plow, intended for general use. Some of the advantages it possesses over the cast iron plow, are lightness of draught, durability, and freedom from clogging or sticking in heavy, clayey sticky or tenacious soils. The parts most exposed to wear are so constructed that they may be readily repaired by any blacksmith.

We would refer to the following persons who have them in use:
John Johnston, Geneva, N. Y.; Wm. Sumner, Pomaria, S. C.; R. C. Ellis, Lyons, N. Y.; Col. A. J. Summer, Long Swamp, Florida; A. J. Bowman, Utica, N. Y.; A. Bradley, Mankato, Minnesota; A. L. Fish, Litchfield, N. Y.; Volney Owen, Union, Ill.; John Shighter, French Creek, N. Y.

"Mohawk Valley Clipper," No. 1, full trimmed, all steel... \$15.00
do. do. with cast point..... 14.00
"Empire," No. 1, with cast point, full trimmed..... 15.00
For Three-Horse Plows..... \$1.50 extra.
For Adjustable Beams,..... 1.00 do.

We also manufacture Sayre & Klink's Patent Tubular Shank

STEEL CULTIVATOR TEETH.

These Teeth are intended to supersede the old style of wedge teeth and teeth with cast iron heads. They are not liable to become loose in the frame, like the FORMER, nor to break, like the LATTER. They are as readily attached to the frame as any form of tooth.

SAYRES' PATENT HORSE HOE.

This implement is considered to be superior to any other for cultivating Corn, Cotton, Tobacco, Potatoes, Hops, Broom Corn, Nurseries, and all crops planted in rows or drills.

Steel Shovel Blades and Cultivator Points made, and all kinds of Swaging and Plow work done to order.

SEND FOR A CIRCULAR.
REMINGTONS, MARKHAM & CO., Ilion, Herkimer Co., N. Y.
E. REMINGTON & SONS, { BENJAMIN P. MARKHAM, } GEO. TUCKERMAN.

March 21—w&mft.

BRIGHT ON GRAPE CULTURE.—

SECOND EDITION.

THIRTY PAGES OF NEW MATTER,

with the experience of 1860 and '61, being the most important part of the work. Indispensable to all GRAPE GROWERS. Sent by mail, free of postage, on receipt of the price, 50 cents, in stamps. Address WILLIAM BRIGHT, Box 138 Philadelphia P. O., Pa.

July 4—w&m3m.

THE AUSTIN STRAWBERRY.

This remarkable variety, after three years' trial, has proved to be the **MOST WONDERFUL STRAWBERRY**

In cultivation, it has been produced this year—16 of the berries weighing one pound. It is as productive as the WILSON, much larger, and finer flavored; the berry is a beautiful scarlet, and commands the **HIGHEST MARKET PRICE.**

It continues long in bearing, and maintains its large size throughout. It was sent to New-York from Watervliet up to the 20th of July—long after all other varieties had disappeared. It is without doubt the most valuable market berry in cultivation; it is much more prolific than the TRIOMPHE DE GAND, larger in size, and altogether more attractive.

The plants of the AUSTIN are now offered at greatly reduced prices—viz.: \$1 per dozen; \$5 per hundred, and \$30 per thousand.

Orders addressed to either
CHAUNCY MILLER, Shaker Trustee, Albany, N. Y.
WM. S. CARPENTER, 468 Pearl-Street, New-York.

Aug. 1—m2t.

**MOHAWK RIVER UPLAND FARM
FOR SALE.**

The farm owned and occupied by the subscriber, situated one and a half miles west of the village of Amsterdam, and containing 138 acres of land, 20 acres being in wood, and the balance under a good state of cultivation. Said farm is beautifully located, and commands a view of the Mohawk River and Valley, Erie Canal, and New-York Central Railroad, that cannot be surpassed. The soil is a gravelly loam, and well adapted to all kinds of grain or grazing; the fences are good, (mostly stone,) and so arranged that stock has free access to water at all times. The orchard and garden contains a large variety of choice grafted fruit, consisting of Apples, Pears, Plums, Cherries, Currants, Gooseberries, Strawberries, Grapes, &c. The buildings are nearly new, the house and principal barn having been built within the last ten years. The house is stone and built expressly for a CONVENIENT, COMFORTABLE FARM HOUSE; the main barn is 61 by 32 feet, with 20 foot posts, and basement 10 feet high; it has other barns and sheds adjoining, sufficient to accommodate a large stock. There is also on the premises a small tenant house, nearly new and in good repair. The above farm will be sold on liberal terms, and possession given the first of April next; or if purchaser desires, can buy stock, farming utensils, &c., and have possession immediately. For further particulars inquire on the premises or by mail, of

JOHN M. VANDEVEER,
Amsterdam, N. Y.

RARE CHANCE
The undersigned now offers for sale his
SPLENDID SUBURBAN RESIDENCE & FRUIT FARM,
LOCATED NEAR
Hudson, Columbia Co., N. Y.

This farm, containing 20 acres, together with the buildings, is situated on an eminence commanding a very extensive view of the city, river and surrounding country. Within three quarters of a mile of all the landings, railroad depots, and business parts of the city,—the grounds are all tastefully laid out and decorated with a great variety of flowering plants, trees, shrubs, vines, and varieties of evergreens, deciduous trees, screens, hedges, &c., &c. The farm is in a high state of cultivation by thorough draining, trenching and manuring. The buildings are all new, handsome, thoroughly built, convenient and ample. The garden and orchard is extensive, containing all the best varieties of apples, pears, cherries, plums, peaches, grapes, and quinces. Also raspberries, blackberries, strawberries, currants, gooseberries, &c. Nearly 1,000 dwarf pear trees set in soil trenched two feet in depth, and trained pyramidically, are now bearing. The location is eminently adapted to the cultivation of the grape, as a large collection of the best varieties, producing splendid fruit, will testify. The farm is well adapted (as was designed) for raising fruit for the New-York market, and the fine specimens sent to market and on exhibition prove the truth of the assertion. Improvements too numerous to mention in an advertisement, together with the locality, render it one of the cheapest and most desirable places to be found on the Hudson between New-York and Albany. Price \$10,000. Terms of payment made easy.

REFERENCES.—John Stanton Gould, Josiah W. Fairfield, Charles P. Waldron, Charles F. King, Captain Steamer Oregon, Hudson, or of the subscriber on the premises.

SOLOMON V. GIFFORD.

June 6—w13tm2.

**LANDSCAPE GARDENING AND RURAL
ARCHITECTURE**—Landscape, Agricultural and Civil Engineering, Surveying, Leveling and Draughting.

**GEO. E. WOODWARD,
Architect, Civil Engineer & Draughtsman,
No. 29 BROADWAY, NEW-YORK.**

Country Seats, Parks, Rural Cemeteries, and public and private roads, laid out and superintended. Plans, Elevations and Working Drawings for Buildings in all departments of Rural Architecture, prepared and mailed to any section of the country. Consultations gratuitous, personally or by letter.

March 21—w&mft.

**CANADA SHEEP FOR SALE.—
COTSWOLDS, LEICESTERS & LINCOLNSHIRE.**

28 ONE YEAR OLD BUCKS, weighing from 240 to 275 pounds each. Price \$60 to \$100 each.

7 TWO YEAR OLDS and upwards, weighing from 300 to 340 pounds each. Price from \$100 to \$120 each.

4 IMPORTED FROM ENGLAND.

EWES at moderate prices. JOHN SNELL, Edmonton P. O., Aug. 15—w5t.

24 miles west of Toronto, C. W.

WANTED.—One Hundred Pure BLACK SPANISH FOWLS of this year's raising, say 92 pullets and 8 cocks. Address WM. H. HERRICK, Oswego, N. Y.

Aug. 15—w4t.

**THE ILLUSTRATED
1862. ANNUAL 1862.
REGISTER OF RURAL AFFAIRS.**

THE EIGHTH NUMBER, for 1862, of THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS is now nearly ready for the press. In the attractiveness and value of its contents we do not think it has been surpassed by any preceding number. We submit below a partial abstract of its contents, which will show their variety and the extent to which they are illustrated—the present number of the ANNUAL REGISTER containing more than

One Hundred and Sixty Engravings.

The ANNUAL REGISTER for 1862 will be ready early in September, and we are now prepared to receive orders for single numbers or in quantity, which will be filled as soon as it is issued. The attention of OFFICERS OF AGRICULTURAL SOCIETIES, and others who propose attending Town, County or State Fairs this Fall, is particularly requested to the ready Sale which may be had for the REGISTER during these anniversaries, and on other occasions throughout Autumn and Winter. TERMS—as heretofore: SINGLE COPIES, postpaid, TWENTY-FIVE CENTS; ONE DOZEN COPIES, postpaid, TWO DOLLARS; ONE HUNDRED COPIES, FIFTEEN DOLLARS, and larger quantities at a further reduction.

TO ADVERTISERS.

TWENTY PAGES only will be devoted, as in the previous issues, to ADVERTISEMENTS. The number being limited, more or less applications have each year arrived too late for admission upon them; last year some of our best friends and advertising customers were thus disappointed, and on this account, as well as in order that the work may be expedited as much as possible, it is desired that all who wish for space should send in their advertisements IMMEDIATELY. Notwithstanding increased circulation, prices remain for 1862 as heretofore:

One Page,	\$20.00
One-Half Page,	12.00
One-Third Page,	8.00
Cards, from.....	\$3.00 to 5.00

PARTIAL ABSTRACT OF CONTENTS.

Among other valuable chapters, the ANNUAL REGISTER for 1862 will contain the following:—

I. FARM BUILDINGS—THIRTY ENGRAVINGS and Four Designs.

1. General Considerations.
2. Estimating the Capacity of Barns.
3. Form of Farm Buildings.
4. How to Plan a Barn.
5. Barn Basements.
6. Cost of Barns.
7. Design One—Barn for Fifty Acres or Less.
8. Design Two—Barn for Seventy-Five to a Hundred Acres.
9. Tool Rooms and Details in Stable Construction.
10. Design Three—A Large Three-Story Barn.
11. Design Four—A Small Three-Story Barn.
12. Various Details.

II. VEGETABLE PHYSIOLOGY, or How Plants Grow—SIXTY-ONE ENGRAVINGS.

1. The First Formation of the Embryo.
2. The Seed and the Requirements for its Germination.
3. Process of Germinating in Plants having One and Two Seed Leaves.
4. Mode of Growth and Structure of the Plant or Tree.
5. The Root—Layering; Cuttings; Transplanting.
6. The Stem and Branches.
7. The Buds and Leaves.
8. The Process of Growing.
9. Principles of Grafting and Budding.
10. Flowers—their Organs; the Crossing of Different Varieties.
11. Species and Varieties.

III. THE GRASSES—THIRTEEN ENGRAVINGS.

1. Importance of the Grass Crop.
2. Descriptions of the more Common Species.
3. Nutritive Value of Hay.
4. Management of Grass Land.
5. Suggestions in Hay-Making.

* This article includes plain and concise descriptions of no less than TWENTY-TWO of the different grasses, with the peculiarities of which every farmer should be familiar—eleven of them accompanied by carefully drawn illustrations.

IV. LIGHTNING RODS—THIRTEEN ENGRAVINGS.

1. Essential and Non-Essential Points in their Erection.
2. Materials and Connections.
3. Length, Height and Supports—Stiffeners above the Roof.
4. Entering the Earth.
5. The Copper Rod—Various Errors—Cost of Rods.

V. BALLOON FRAMES—TWENTY-FOUR ENGRAVINGS.

1. Their Merits and Practicability.
2. Method of Raising—the Sills, Studs and Wall-Plate.
3. Directions for One-Story Buildings.
4. Directions for Two or Three Story Buildings.
5. Siding, Lining and Construction of Partitions.
6. Framing Large Barns.

VI. MOVABLE-COMB BEE-HIVES—EIGHT ENGRAVINGS.

1. Advantages of the Movable-Comb Hive.
2. Descriptions of Different Kinds.

VII. THE ORCHARD AND GROUNDS—FOURTEEN ENGRAVINGS.

1. Summer Pears—Old and New Sorts.
2. The Value of Orchards.
3. Training Weeping Trees.
4. Removing Large Trees.

**VIII. THE FARM—How Fortunes are Sometimes Sunk.
IX. FRUITS AND FRUIT CULTURE—ONE ENGRAVING.**

1. Rules for Pruning Grapes.
2. Directions for Transplanting.
3. Root-Grafting the Grape.
4. Depredators and Diseases.
5. Apples for the West.
6. Selection of Hardy Grapes.
7. Young Cherry Trees.
8. High Prices for Pears—The Glout Morceau.
9. Broadcast Cultivation—Apples in Wisconsin.
10. Hardy and Tender Trees—Culture of the Blackberry.

X. THE DAIRY.

1. On Cheese-Making by Beginners.
2. Hiram Mills' Way of Making Butter.
3. Two Valuable Rules in Making Cheese.

XI. DOMESTIC ANIMALS—TWO ENGRAVINGS.

1. The Best Doctor for Animals.
2. Shropshire Down Sheep.
3. Wintering Sheep.
4. Training Cattle to Jump.
5. Registering Sheep—Care of them in Spring.
6. To Prevent Horses Kicking—Teaching them to Canter.
7. Making Cheap Beef—Beginning Winter Right.
8. Regularity in Feeding—Profits of Sheep Raising.
9. Training Draft Animals—Cattle Racks.
10. Swine Fed on Skim Milk—Treatment of Sows with Young Pigs.
11. Relieving Choked Cattle—Weaning Lambs.

XII. RURAL AND DOMESTIC ECONOMY, &c., &c.

XIII. USEFUL TABLES.

1. Value of Food for Domestic Animal.
2. Weight of Grain to the Bushel.
3. To Measure Grain and Corn in the Granary or Crib.
4. Measures of Capacity, Length and Weight.
5. Weights of a Cubic Foot and Bulk of a Ton of Different Substances.
6. Capacity of Soils for Water.
7. Velocity of Water in Tile Drains.
8. Contents of Cisterns.
9. Distances for Planting Trees, &c., and Number to the Acre.
10. Force of Windmills.
11. Quantities of Seed to the Acre.
12. Quality of Different kinds of Wood.
13. Gestation of Animals.
14. Quantity of Garden Seeds Required for a Given Area.

XIV. ADVERTISEMENTS.

This, preceded by the usual Calendar pages and Astronomical Calculations, forms a book which is certainly cheap at its retail price, and the Publishers, with a view of rendering its circulation still wider and larger than that of any previous Number, are prepared, as above intimated, to offer the most liberal Terms for its introduction in quantities, either to Agents, Agricultural Societies, Nurserymen, Dealers in Implements and Seeds, or any others who take an interest in the dissemination of useful reading, and in the promotion of Rural Improvement.

Address all orders or inquiries to the publishers,

LUTHER TUCKER & SON,
ALBANY, N. Y.

P R I N C E & C O., FLUSHING, N. Y.,
will send new Catalogues of

STRAWBERRIES, BULBS, GRAPES,

and all other Fruits, to applicants with stamps. Aug. 22—w&m.

S E E D S A N D P L A N T S O F N E B R E S K A.—Now ready, over 40 kinds of Nebraska Flower Seeds, to all who send stamps for postage and putting up.

Plants, Shrubs and Fruits sent to all who pay for boxing and putting up.

All orders that came too late last season will be filled this fall.

Curious Tree and Shrub Seeds sent gratuitously as above.

R. O. THOMPSON.

Hereafter address me at SYRACUSE, OTOR CO., NEBRASKA TERRITORY,

Aug. 22—w&m.

T R E E S A T L O W P R I C E S.

ELLWANGER & BARRY

Respectfully invite the attention of the public to their present immense stock, covering upwards of FIVE HUNDRED ACRES OF LAND, and embracing everything desirable in both

Fruit and Ornamental Department,

Grown in the very best manner, and offered either at wholesale or retail, at greatly reduced prices.

Parties who contemplate planting should avail themselves of this opportunity, the like of which may not soon occur again.

Descriptive and Wholesale Catalogues forwarded gratis, and all information as to prices, &c., promptly given on application.

MOUNT HOPE NURSERIES,

Aug. 22—w&m.

Rochester, N. Y.

F A R M F O R S A L E.—

Two hundred and Eighty acres of good Limestone Land, 4½ miles east of Brownsville, Pa.—two hundred acres cleared and under a high state of cultivation.

Price \$50 per acre, 2-5ths of which will be taken in pure bred stock.

Address JOHN S. GOE, Brownsville, Pa.

(P. O. Box 6.)

May 24—w&m.